DCR-TRV320/TRV320E/TRV320P/TRV420E/
TRV520/TRV520E/TRV520P/TRV525/
TRV620E/TRV720/TRV720E
RMT-814

SERVICE MANUAL

US Model
DCR-TRV320/TRV520/TRV525/TRV720
Canadian Model
DCR-TRV320/TRV525/TRV720
AEP Model
DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
UK Model
DCR-TRV320E/TRV620E
East European Model
North European Model
Russian Model
DCR-TRV320E
E Model
DCR-TRV320/TRV320E/TRV320P/
TRV520/TRV520E/TRV520P/TRV720/TRV720E
Hong Kong Model
DCR-TRV320/TRV320E/
TRV520/TRV520E/TRV720E
Korea Model
DCR-TRV320/TRV520/TRV720
Argentina Model
DCR-TRV520P
Australian Model
DCR-TRV320E/TRV520E
Chinese Model
DCR-TRV320E/TRV420E/TRV520E/TRV720E
Tourist Model
DCR-TRV520/TRV520E

Self Diagnosis Supported model

Ver 1.0 2000. 03

Digital Handycam

InfoLITHIUM

MEMORY STICK ™

B700 MECHANISM

Photo: DCR-TRV320

NTSC MODEL : DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL : DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

When the machine needs to be repaired, please refer to page 9 to discriminate the type of LCD.

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ " (9-973-801-11).

SPECIFICATIONS

Video camera recorder

System

Video recording system
2 rotary heads
Helical scaning system

Audio recording system
Rotary heads, PCM system
Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo)

Video signal
DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 :
NTSC color, EIA standards
DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E :
PAL colour, CCIR standards

Recommended cassette
Hi8/Digital8 video cassette

Recording/Playback time (using 120 min. Hi8 video cassette)
SP mode: 1 hour
LP mode: 1 hour and 30 minutes

Fastforward/rewind time (using 120 min. Hi8 video cassette)
Approx. 5 min.

Viewfinder
Electric Viewfinder (monochrome)

Image device
1/4 type CCD (Change Coupled Device)
DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 :
Approx. 460,000 pixels
(Effective: Approx. 290,000 pixels)
DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E :
Approx. 800,000 pixels
(Effective: Approx. 400,000 pixels)

Lens
Combined power zoom lens
Filter diameter 37 mm (1 1/2 in.)
25× (Optical)
DCR-TRV320/TRV320E: E, AUS, HK, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, AUS, HK, CN, JE/TRV520P/TRV525/TRV720/TRV720E: E, HK, CN :
450× (Digital)
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV520E: AEP/TRV620E/TRV720E: AEP :
100× (Digital)
DCR-TRV420E: AEP :
125× (Digital)

Focal length
3.7 - 92.5 mm (5/32 - 3 3/4 in.)
When converted to a 35 mm still camera
48 - 1200 mm (1 15/16 - 47 1/4 in.)

Colour temperature
Auto

Minimum illumination
DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 :
1 lux (F 1.6)
DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E :
3 lux (F 1.6)
0 lux (in the NightShot mode)*

* Objects unable to be seen due to the dark can be shot with infrared lighting.

Input/output connectors

DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 :

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced
Chrominance signal: 0.286 Vp-p, 75 ohms, unbalanced

Audio/Video input/output
AV MINIJACK, 1 Vp-p, 75 ohms, unbalanced, sync negative
327 mV, (at output impedance more than 47 kilohms)
Output impedance with less than 2.2 kilohms/Stereo minijack (ø 3.5 mm)
Input impedance more than 47 kilohms
DCR-TRV320E: E, AUS, HK, CN/TRV420E: CN/TRV520E: E, AUS, HK, CN, JE/TRV620E/TRV720E :

S video input/output
4-pin mini DIN
Luminance signal: 1 Vp-p, 75 ohms, unbalanced
Chrominance signal: 0.3 Vp-p, 75 ohms, unbalanced

Audio/Video output
AV MINIJACK, 1 Vp-p, 75 ohms, unbalanced, sync negative
327 mV, (at output impedance more than 47 kilohms)
Output impedance with less than 2.2 kilohms/Stereo minijack (ø 3.5 mm)
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP :

– Continued on next page –

Digital 8 DIGITAL VIDEO CASSETTE RECORDER

SONY®

S video output
4-pin mini DIN
Luminance signal: 1 Vp-p,
75 ohms, unbalanced
Chrominance signal: 0.3 Vp-p,
75 ohms, unbalanced

Audio/Video output
AV MINIJACK, 1 Vp-p, 75 ohms, unbalanced, sync negative
327 mV, (at output impedance more than 47 kilohms)
Output impedance with less than 2.2 kilohms/Stereo minijack (ø 3.5 mm)
DCR-TRV320/TRV320E: E, AUS, HK, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, AUS, HK, CN, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E :

DV input/output
4-pin connector
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP :

DV output
4-pin connector

Headphone jack
Stereo minijack (ø 3.5 mm)

LANC control jack
Stereo mini-minijack (ø 2.5 mm)
Transfer rate: Max 115.2 Kbps
RS-232C based

MIC jack
Stereo minijack (ø 3.5 mm)

LCD screen

Picture
DCR-TRV320/TRV320E/TRV320P :
2.5 type
50.3 × 37.4 mm (2 × 1 1/2 in.)
DCR-TRV420E/TRV525 :
3 type
61.0 × 43.8 mm (2 1/2 × 1 3/4 in.)
DCR-TRV520/TRV520E/TRV520P/TRV620E :
3.5 type
72.2 × 50.4 mm (2 7/8 × 2 in.)
DCR-TRV720/TRV720E :
4 type
80.6 × 60.5 mm (3 1/4 × 2 1/2 in.)

Total dot number
DCR-TRV320/TRV320E: E, AUS, HK, CN/TRV320P :
61,600 (280 × 220)
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E :
123,200 (560 × 220)

General

power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)

Average power consumption (When using the battery pack)
During camera recording using LCD
DCR-TRV320E: AEP, UK, EE, NE, RU :
3.5 W
DCR-TRV320/TRV320E: E, AUS, HK, CN/TRV320P :
3.7 W
DCR-TRV720/TRV720E :
4.4 W
DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E :
4.5 W
Viewfinder
DCR-TRV320E: AEP, UK, EE, NE, RU :
2.8 W
DCR-TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E :
3.1 W
DCR-TRV320/TRV320E: E, AUS, HK, CN/TRV320P :
3.3 W
DCR-TRV420E: CN/TRV520/TRV520E: E, AUS, HK, CN, JE/TRV520P :
3.6 W

Operating temperature
0 °C to 40 °C (32 °F to 104 °F)

Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)

Dimensions (approx.)
DCR-TRV320/TRV320E/TRV320P :
107 × 106 × 233 mm
(4 1/4 × 4 1/4 × 9 1/4 in.) (w/h/d)
DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E :
111 × 106 × 207 mm
(4 1/2 × 4 1/4 × 8 1/4 in.) (w/h/d)
DCR-TRV720/TRV720E :
112 × 121 × 218 mm
(4 1/2 × 4 7/8 × 8 5/8 in.) (w/h/d)

Mass (approx.)
DCR-TRV320/TRV320E/TRV320P :
950 g (2 lb 1 oz)
DCR-TRV420E/TRV525 :
980 g (2 lb 2 oz)
DCR-TRV520/TRV520E/TRV520P/TRV620E :
990 g (2 lb 2 oz)
DCR-TRV720/TRV720E :
1.1 kg (2 lb 6 oz)
excluding the battery pack, lithium battery, cassette and shoulder strap
DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E :
1.1 kg (2 lb 7 oz)
DCR-TRV720/TRV720E :
1.2 kg (2 lb 10 oz)
DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 :
including the battery pack NP-F330, lithium battery CR2025, 120 min. Hi8 cassette, and shoulder strap
DCR-TRV320E/TRV420E: CN/TRV520E/TRV620E/TRV720E :
including the battery pack NP-F330, lithium battery CR2025, 90 min. Hi8 cassette, and shoulder strap
DCR-TRV420E: AEP :
including the battery pack NP-F550, lithium battery CR2025, 90 min. Hi8 cassette, and shoulder strap

AC power adaptor

Power requirements
100 - 240 V AC, 50/60 Hz

Power consumption
23 W

Output voltage
DC OUT: 8.4 V, 1.5 A in the operating mode

Operating temperature
0 °C to 40 °C (32 °F to 104 °F)

Storage temperature
–20 °C to +60 °C (–4 °F to +140 °F)

Dimensions (approx.)
125 × 39 × 62 mm
(5 × 1 9/16 × 2 1/2 in.) (w/h/d)
excluding projecting parts

Mass (approx.)
280 g (9.8 oz)
excluding power cord

Battery Pack

Output voltage
DC 7.2 V

Capacity
DCR-TRV320/TRV320E/TRV320P/TRV420E: CN/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E :
NP-F330: 5.0 Wh
DCR-TRV420E: AEP :
NP-F550: 10.8 Wh

Dimensions (approx.)
38 × 21 × 71 mm
(1 9 /16 × 1 3/16 × 2 7/8 in.) (w/h/d)

Mass (approx.)
95 g (3.4 oz)

Type
Lithium ion

“Memory Stick”

Memory
Flash memory
4 MB: MSA-4A

Operating voltage
2.7 - 3.6 V

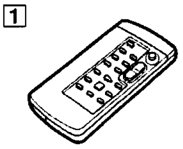
Power consumption
Approx. 45 mA in the operating mode
Approx. 130 µA in the standby mode

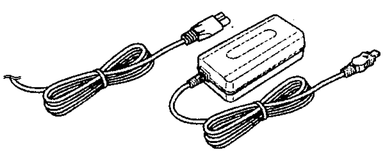
Dimensions (approx.)
50 × 2.8 × 21.5 mm
(2 × 1/8 × 7/8 in.) (w/h/d)

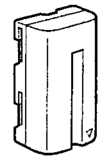
Mass (approx.)
4 g (0.14 oz)

Design and specifications are subject to change without notice.

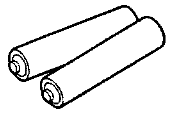
Supplied accessories

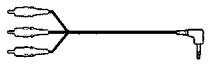
1


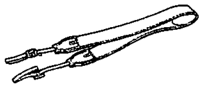
2


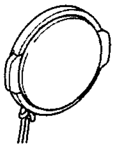
3


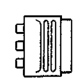
4

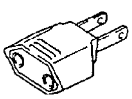
5


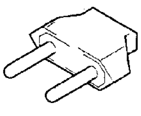
6


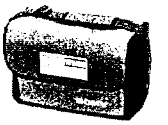
7


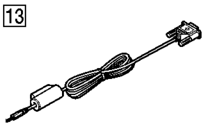
8


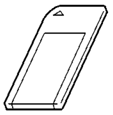
9


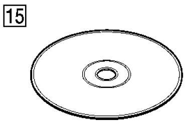
10


11


12


13


14


15


1 **Wireless Remote Commander** (1)
2 **AC-L10A/L10B/L10C AC Power adaptor** (1), **Mains lead** (1)
3 **NP-F330 battery pack** (1)
DCR-TRV320/TRV320E/TRV320P/TRV420E: CN/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E
NP-F550 battery pack (1)
DCR-TRV420E: AEP
4 **CR2025 lithium battery** (1)
The lithium battery is already installed in your camcorder.
5 **R6 (Size AA) battery for Remote Commander** (2)
6 **A/V connecting cable** (1)
7 **Shoulder strap** (1)
8 **Lens cap** (1)
9 **21-pin adaptor** (1)
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV620E/TRV720E: AEP
10 **2-pin conversion adaptor** (1)
DCR-TRV320: E, HK/TRV320E: E, HK/TRV320P/TRV520: E, HK/TRV520E: E, HK/TRV520P: E/TRV720: E/TRV720E: E, HK
11 **2-pin conversion adaptor** (1)
DCR-TRV520: JE/TRV520E: JE
12 **Carrying bag** (1)
DCR-TRV320P/TRV520P
13 **PC serial cable** (1)
14 **“Memory Stick”** (1)
15 **Application software: PictureGear 4.1 Lite (CD ROM)** (1)

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270 °C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

TABLE OF CONTENTS

Section *Title* *Page*

SERVICE NOTE

1. Power Supply During Repairs 8
2. To Take Out a Cassette When Not Eject (Force Eject) 8
3. Note for Repair 9
4. Self-diagnosis Code Table 11

SELF-DIAGNOSIS FUNCTION

1. Self-diagnosis Function 10
2. Self-diagnosis Display 10
3. Service Mode Display 10
3-1. Display Method 10
3-2. Switching of Backup No. 10
3-3. End of Display 10
4. Self-diagnosis Code Table 11

1. GENERAL

Checking Supplied Accessories 1-1
Quick Start Guide 1-1
Using This Manual 1-2
Step 1 Preparing the Power Supply 1-2
Step 2 Inserting a Cassette 1-4
Recording a Picture 1-4
Checking the Recording
– END SEARCH/EDIT SEARCH/Rec Review 1-7
Playing Back a Tape 1-7
Viewing the Recording on TV 1-9
Recording a Still Image on a Tape
– Tape Photo Recording 1-9
Using the Wide Mode 1-10
Using the Fader Function 1-11
Using Special Effects
– Picture Effect 1-11
Using Special Effects
– Digital Effect 1-12
Using the PROGRAM AE Function 1-13
Adjusting the Exposure Manually 1-13
Focusing Manually 1-13
Superimposing a Title 1-14
Making Your Own Titles 1-14
Inserting a Scene 1-15
Playing Back a Tape with Picture Effects 1-15
Playing Back a Tape with Digital Effects 1-15
Enlarging Recorded Images
– PB ZOOM 1-16
Quickly Locating a Scene Using the Zero Set
Memory Function 1-16
Searching a Recording by Date
– Date Search 1-16
Searching for a Photo
– Photo Search/Photo Scan 1-17
Dubbing a Tape 1-17
Using with Analog Video Unit and PC
– Signal Convert Function 1-18
Recording Video or TV Programmes 1-19
Inserting a Scene from a VCR
– Insert Editing 1-20
Changing the Menu Settings 1-20
Resetting the Date and Time 1-22
Using “Memory Stick” – Introduction 1-23
Recording Still Images on “Memory Stick”
– Memory Photo Recording 1-24
Superimposing a Still Image in the
“Memory Stick” on a moving Image
– MEMORY MIX 1-25
Recording an Image from a Tape as a Still Image 1-26
Copying Still Images from a Tape
– Photo Save 1-27
Viewing a Still Image
– Memory Photo Playback 1-27
Copying the Image Recorded on
“Memory Stick” to Tapes 1-28
Enlarging Recorded Still Images on “Memory Stick”s
– Memory PB ZOOM 1-29
Playing Back Images in a Continuous Loop
– SLIDE SHOW 1-29
Preventing Accidental Erasure
– Image Protection 1-30
Deleting Images 1-30
Writing a Print Mark
– PRINT MARK 1-31
Digital8 System, Recording and Playback 1-31
About i. LINK 1-32
Changing the Lithium Battery in Your Camcorder 1-32
Troubleshooting 1-33
Self-diagnosis Display 1-34
Warning Indicators and Messages 1-34
Using Your Camcorder Abroad 1-35
Maintenance Information and Precautions 1-35
Identifying the Parts and Controls 1-36

2. DISASSEMBLY

2-1. 2.5 LCD Assembly, PD-117 Board 2-2
2-2. 3/3.5/4 LCD Assembly, PD-118 Board 2-3
2-3. VF-141 Board, VF Lens Assembly (LCD EVF Model) 2-4
2-4. Front Panel Assembly 2-5
2-5. Cassette Lid Assembly, Cabinet (L) Assembly 2-5
2-6. Cabinet (R) Assembly 2-6
2-7. CRT EVF Block 2-6
2-8. CRT EVF Assembly 2-6
2-9. VF-129 Board , CRT Assembly 2-6
2-10. CF-69 Board (2.5 LCD Model) 2-7
2-11. CF-70 Board (3/3.5 LCD Model) 2-7
2-12. CF-72 Board (4 LCD Model) 2-8
2-13. PC-77 Board 2-8
2-14. Cabinet (L) Assembly 2-8
2-15. Battery Panel Assembly, FP-162 Flexible Board 2-8
2-16. Lens Block 2-9
2-17. SE-104/112/114 Board, Control Switch Block (FK-10000) 2-9
2-18. FU-138/142/144 Board 2-10
2-19. VC-235 Board 2-10
2-20. Circuit Boards Location 2-11
2-21. Flexible Boards Location 2-12

3. BLOCK DIAGRAMS

3-1. Overall Block Diagram 1 3-1
3-2. Overall Block Diagram 2 3-3
3-3. Overall Block Diagram 3 3-5
3-4. Overall Block Diagram 4 3-7
3-5. Power Block Diagram 1 3-9
3-6. Power Block Diagram 2 3-11
3-7. Power Block Diagram 3 3-13

4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1. Frame Schematic Diagrams 4-3
    Frame (1/2) Schematic Diagram 4-3
    Frame (2/2) Schematic Diagram 4-5
4-2. Printed Wiring Boards and Schematic Diagrams 4-7
    CD-242/266/270 Printed Wiring Board and Schematic Diagram 4-7
    CD-244/267/271 Printed Wiring Board and Schematic Diagram 4-9
    VC-235 Printed Wiring Board 4-11
    VC-235 (CAMERA PROCESSOR) Schematic Diagram 4-15
    VC-235 (Y/C PROCESSOR) Schematic Diagram 4-17

Section Title Page
VC-235 (LENS MOTOR DRIVE)
Schematic Diagram 4-19
VC-235 (VIDEO IN/OUT) Schematic Diagram 4-21
VC-235 (BASE BAND INPUT)
Schematic Diagram 4-23
VC-235 (VIDEO/AUDIO DSP, D/A CONVERTER)
Schematic Diagram 4-25
VC-235 (DV INTERFACE, OSD)
Schematic Diagram 4-27
VC-235 (A/D CONVERTER, REC/PB AMP)
Schematic Diagram 4-29
VC-235 (Hi8/Std8 PB AMP) Schematic Diagram 4-31
VC-235 (HI CONTROL) Schematic Diagram............ 4-33
VC-235 (Digital8 MECHANISM CONTROL)
Schematic Diagram 4-35
VC-235 (CAMERA CONTROL, Hi8/Std8 MECHANISM
CONTROL) Schematic Diagram 4-37
FP-38, FP-220, FP-221, FP-249, FP-355, FP-356,
VC-235 (SERVO) Schematic Diagram 4-39
FP-249, FP-355, FP-356 Printed Wiring Boards and
VC-235 (D/A CONVERTER) Schematic Diagram 4-41
VC-235 (AUDIO IN/OUT) Schematic Diagram 4-43
VC-235 (DC/DC CONVERTER)
Schematic Diagram 4-45
PC-77 (DIGITAL STILL CONTROL), FP-162
Schematic Diagram 4-47
PC-77 (STILL PICTURE SIGNAL PROCESS)
Schematic Diagram 4-49
PC-77 (DC/DC CONVERTER)
Schematic Diagram 4-51
PC-77 Printed Wiring Board 4-53
SE-104/112/114 Printed Wiring Board 4-55
SE-104/112/114 Schematic Diagram 4-57
FP-156, MI-37 Printed Wiring Boards 4-59
FP-156, MI-37 (STEREO MIC AMP)
Schematic Diagram 4-63
MI-37 (IR TRANSMITTER) Schematic Diagram........ 4-65
CF-69 Printed Wiring Board 4-67
MF-10000, CF-69 Schematic Diagram 4-71
MF-10000, CF-70 Schematic Diagram 4-73
CF-70 Printed Wiring Board 4-75
CF-72 Printed Wiring Board 4-79
MF-10000, CF-72 Schematic Diagram 4-83
KP-009 Printed Wiring Board and
Schematic Diagram 4-85
FK-10000 Schematic Diagram 4-87
VF-129 Printed Wiring Board 4-88
VF-129 Schematic Diagram 4-89
VF-141 Printed Wiring Board 4-91
VF-141 Schematic Diagram 4-93
LB-62 Printed Wiring Board 4-95
LB-62 Schematic Diagram 4-97
PD-117 Printed Wiring Board 4-99
PD-117 (RGB LCD DRIVER, TIMING GENERATOR)
Schematic Diagram 4-103
PR-10000, PD-117 (CG LCD DRIVER, BACK LIGHT)
Schematic Diagram 4-105
PD-118 Printed Wiring Board 4-107
PD-118 (RGB LCD DRIVER, TIMING GENERATOR),
BV-10000, PR-10000 Schematic Diagram 4-111
PR-10000, PD-118 (CG LCD DRIVER, BACK LIGHT)
Schematic Diagram 4-113
FU-138/142/144 Printed Wiring Board 4-115
SS-10000, FU-138/142/144 Schematic Diagram 4-117
4-3. Waveforms 4-119
4-4. Parts Location 4-124

5. ADJUSTMENTS

1. Before Starting Adjustment 5-1
1-1. Adjusting Items
when Replacing Main Parts and Boards 5-2
5-1. Camera Section Adjustment 5-4
Section Title Page
1-1. Preparations Before Adjustment
(Camera Section) 5-4
1-1-1. List of Service Tools 5-4
1-1-2. Preparations 5-5
1-1-3. Precaution 5-9
1. Setting the Switch 5-9
2. Order of Adjustments 5-9
3. Subjects 5-9
1-2. Initialization of 7, 8, C, D, E, F Page Data
and Modification of B Page Data 5-10
1-2-1. Initialization of 8, C, D Page Data 5-10
1. Initializing the 8, C, D Page Data 5-10
2. Modification of 8, C, D Page Data 5-10
3. 8 Page Table 5-10
4. C Page Table 5-11
5. D Page Table 5-12
1-2-2. Initialization of 7, E, F Page Data 5-13
1. Initializing the 7, E, F Page Data 5-13
2. Modification of 7, E, F Page Data 5-13
3. 7 Page Table 5-13
4. E Page Table 5-14
5. F Page Table 5-15
1-2-3. Modification of B Page Data 5-16
1. Modification of B Page Data 5-16
2. B Page Table 5-16
1-3. Camera System Adjustments 5-16
1. HALL Adjustment 5-16
2. Flange Back Adjustment
(Using the Minipattern Box) 5-17
3. Flange Back Adjustment
(Using Flange Back Adjustment Chart Subject
More Than 500 m Away) 5-18
3-1. Flange Back Adjustment (1) 5-18
3-2. Flange Back Adjustment (2) 5-18
4. Flange Back Check 5-19
5. Optical Axis Adjustment 5-20
6. Picture Frame Setting 5-21
7. Color Reproduction Adjustment 5-22
8. AWB & LV Standard Data Input 5-23
9. Auto White Balance Adjustment 5-23
10. White Balance Check 5-24
11. Angular Velocity Sensor Sensitivity Data Preset
and SteadyShot Check 5-25
1-4. Monochrome CRT Electronic Viewfinder
System Adjustments 5-26
1-4-1. Horizontal Slant Check 5-26
1-4-2. Centering Adjustment 5-26
1-4-3. Focus Adjustment 5-26
1-4-4. Aberration Adjustment 5-27
1-4-5. Horizontal Amplitude Adjustment (VF-129 Board) 5-27
1-4-6. Vertical Amplitude Adjustment (VF-129 Board).... 5-28
1-4-7. Brightness Adjustment (VF-129 Board) 5-28
1-4-8. Horizontal Amplitude, Vertical Amplitude,
Focus Check 5-28
1-5. LCD Electronic Viewfinder
System Adjustments 5-29
1. EVF Initial Data Input (1) 5-29
2. EVF Initial Data Input (2) 5-30
3. VCO Adjustment (VF-141 Board) 5-30
4. RGB AMP Adjustment (VF-141 Board) 5-31
5. Contrast Adjustment (VF-141 Board) 5-31
6. Backlight Consumption Current Adjustment
(VF-141 Board) 5-32
7. White Balance Adjustment (VF-141 Board) 5-32
1-6. LCD System Adjustments 5-33
1. LCD Initial Data Input (1) 5-33
2. LCD Initial Data Input (2) 5-34
3. VCO Adjustment (PD-117/118 Board) 5-34
4. RGB AMP Adjustment (PD-117/118 Board) 5-35
5. Contrast Adjustment (PD-117/118 Board) 5-35
6. COM AMP Adjustment (PD-117/118 Board) 5-36
7. V-COM Adjustment (PD-117/118 Board) 5-36
8. White Balance Adjustment
(PD-117/118 Board) 5-37

Section *Title* *Page*

5-2. MECHANISM SECTION ADJUSTMENT 5-38
2-1. Hi8/Standard 8 mm Mode 5-38
2-1-1. How to Enter Playback Mode Without Cassette ... 5-38
2-1-2. Tape Path Adjustment 5-38
1. Preparations for Adjustment 5-38
2-2. Digital8 Mode 5-39
2-2-1. How to Enter Record Mode Without Cassette 5-39
2-2-2. How to Enter Playback Mode Without Cassette ... 5-39
2-2-3. Overall Tape Path Check 5-39
1. Recording of the Tape Path Check Signal 5-39
2. Tape Path Check 5-39
5-3. Video Section Adjustment 5-40
3-1. Preparations Before Adjustments 5-40
3-1-1. Equipment to Required 5-40
3-1-2. Precautions on Adjusting 5-41
3-1-3. Adjusting Connectors 5-42
3-1-4. Connecting the Equipment 5-42
3-1-5. Alignment Tape 5-43
3-1-6. Input/output Level and Impedance 5-44
3-2. System Control System Adjustment 5-45
1. Initialization of 7, 8, C, D, E, F Page Data 5-45
2. Node Unique ID No. Input 5-45
2-1. Input of Company ID 5-45
2-2. Input of Serial No. 5-45
3. Battery End Adjustment (VC-235 Board) 5-47
3-3. Servo and RF System Adjustments 5-48
1. REEL FG Adjustment (VC-235 Board) 5-48
2. PLL f_0 & LPF f_0 Pre-adjustment (VC-235 Board) .. 5-48
3. Switching Position Adjustment (VC-235 Board) ... 5-49
4. AGC Center Level Adjustment (VC-235 Board) ... 5-49
5. APC & AEQ Adjustment (VC-235 Board) 5-50
6. PLL f_0 & LPF f_0 Final Adjustment (VC-235 Board) 5-50
7. Hi8/standard 8 mm Switching Position Adjustment (VC-235 Board) 5-51
8. CAP FG Duty Adjustment (VC-235 Board) 5-51
3-4. Video System Adjustments 5-52
3-4-1. Video System Adjustments 5-52
1. 27 MHz/36 MHz Origin Oscillation Adjustment (VC-235 Board)) 5-52
2. Chroma BPF f_0 Adjustment (VC-235 Board) 5-52
3. S VIDEO OUT Y Level Adjustment (VC-235 Board) 5-53
4. S VIDEO OUT Chroma Level Adjustment (VC-235 Board) 5-53
5. VIDEO OUT Y, Chroma Level Check (VC-235 Board) 5-54
6. Hi8/standard 8 mm AFC f_0 Adjustment (VC-235 Board) (Using Digital Voltmeter) 5-54
7. Hi8/standard 8 mm AFC f_0 Adjustment (VC-235 Board) (Auto Adjustment) 5-54
3-5. IR Transmitter Adjustments 5-55
1. IR Video Carrier Frequency Adjustment (MI-37 Board) 5-55
2. IR Video Deviation Adjustment (MI-37 Board) 5-55
3. IR Audio Deviation Adjustment (MI-37 Board) 5-56
3-6. Audio System Adjustments 5-57
1. Hi8/standard 8 mm AFM BPF f_0 Adjustment (VC-235 Board) 5-57
2. Hi8/standard 8 mm AFM 1.5 MHz Deviation Adjustment (VC-235 Board) 5-58
3. Hi8/standard 8 mm AFM 1.7 MHz Deviation Adjustment (VC-235 Board) 5-58
4. Digital8 Playback Level Check 5-58
5. Overall Level Characteristics Check 5-58
6. Overall Distortion Check 5-58
7. Overall Noise Level Check 5-59
8. Overall Separation Check 5-59
5-4. SERVICE MODE 5-60
4-1. Adjustment Remote Commander 5-60
1. Using the Adjustment Remote Commander 5-60
2. Precautions Upon Using the Adjustment Remote Commander 5-60
4-2. Data Process 5-61
4-3. Service Mode 5-62
1. Setting the Test Mode 5-62
2. Emergence Memory Address 5-62
2-1. C Page Emergence Memory Address 5-62
2-2. F Page Emergence Memory Address 5-63
2-3. EMG Code (Emergency Code) 5-63
2-4. MSW Code 5-64
3. Bit Value Discrimination 5-65
4. Input/output Check 5-65
5. LED, LCD (Display Window) Check 5-65
6. Record of Use Check 5-66
7. Switch Check (1) 5-66
8. Switch Check (2) 5-67
9. Headphone Jack Check 5-68

6. REPAIR PARTS LIST

6-1. Exploded Views 6-1
6-1-1. Front Panel Section 6-1
6-1-2. Cabinet (R) Section (TRV320/TRV320E/TRV320P) 6-2
6-1-3. 2.5 LCD Assembly Section (TRV320/TRV320E/TRV320P) 6-3
6-1-4. Cabinet (R) Section (3/3.5 LCD Model) (TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E) 6-4
6-1-5. 3/3.5 LCD Assembly Section (TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E) 6-5
6-1-6. Cabinet (R) Section (4 LCD Model) (TRV720/TRV720E) 6-6
6-1-7. 4 LCD Assembly Section (TRV720/TRV720E) 6-7
6-1-8. CRT EVF Block Section 6-8
6-1-9. LCD EVF Block Section 6-9
6-1-10. Cabinet (L) Section 6-10
6-1-11. Lens Block Section 6-11
6-1-12. Main Board Section 6-12
6-1-13. Cassette Compartment Assembly 6-13
6-1-14. LS Chassis Assembly 6-14
6-1-15. Mechanism Chassis Assembly 6-15
6-2. Electrical Parts List 6-16

* The optical axis frame is shown on page 321.
The color reproduction frame is shown on page 322.
The parts reference sheet is shown on page 323 .

SERVICE NOTE

1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4 V) to the battery terminal using the service power cord (J-6082-223-A), the power is shut off so that the unit cannot operate.
This following two methods are available to prevent this. Take note of which to use during repairs.

Method 1.

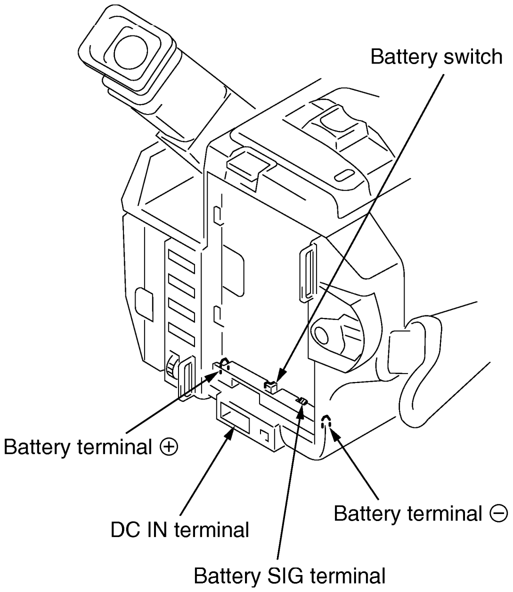
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the remote commander switch to the “ADJ” side.

Method 2.

Press the battery switch of the battery terminal using adhesive tape, etc.

Method 3.

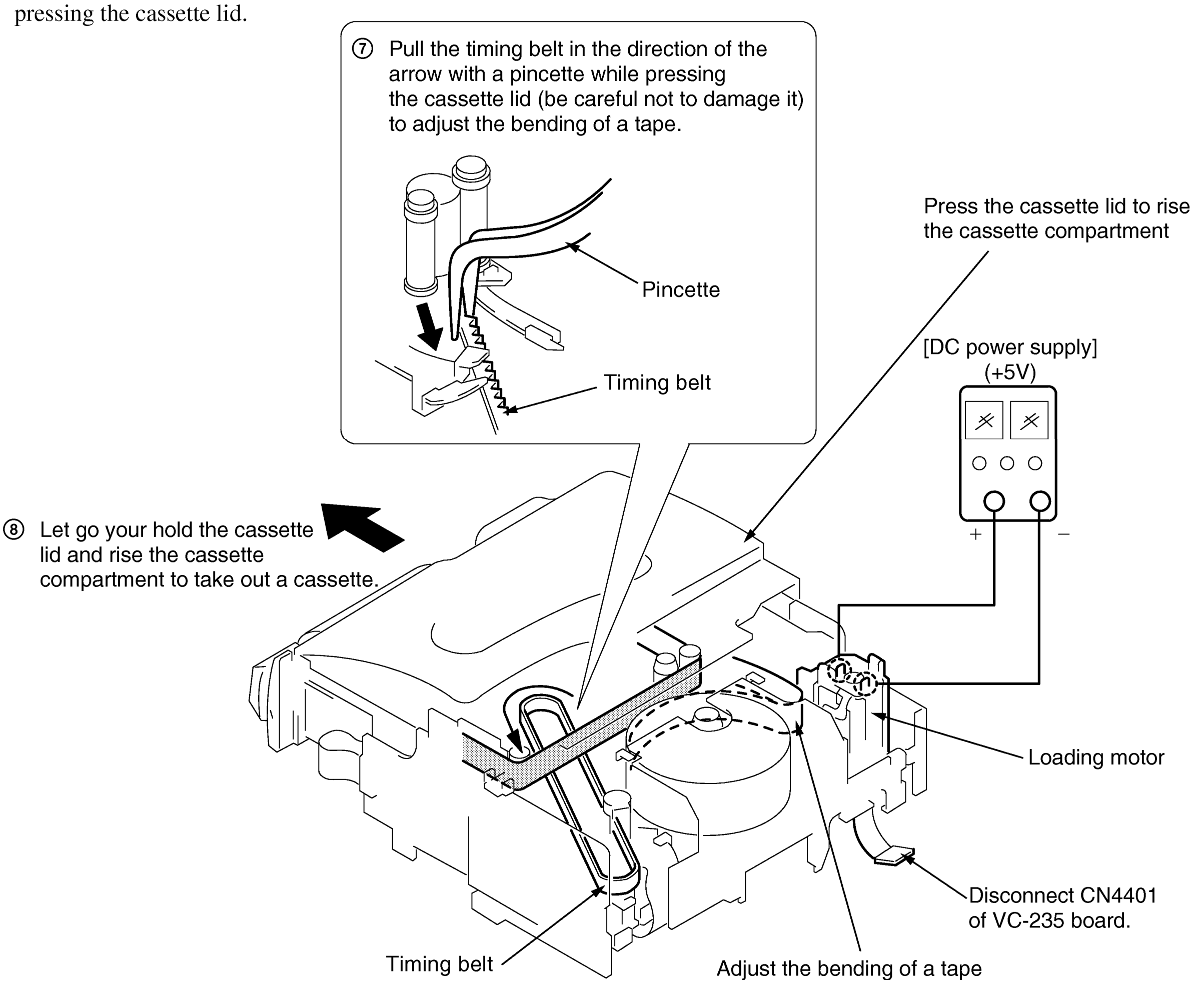
Use the DC IN terminal. (Use the AC power adaptor.)



Battery switch
Battery terminal ⊕
Battery terminal ⊖
DC IN terminal
Battery SIG terminal

2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

① Refer to 2-4 to remove the front panel assembly.
② Refer to 2-5 to remove the cabinet (L) assembly.
③ Refer to 2-6 to remove the cabinet (R) assembly.
④ Refer to 2-15 to remove the battery panel assembly.
⑤ Disconnect CN4401 of VC-235 board.
⑥ Add +5 V from the DC POWER SUPPLY and unload with a pressing the cassette lid.



⑦ Pull the timing belt in the direction of the arrow with a pincette while pressing the cassette lid (be careful not to damage it) to adjust the bending of a tape.

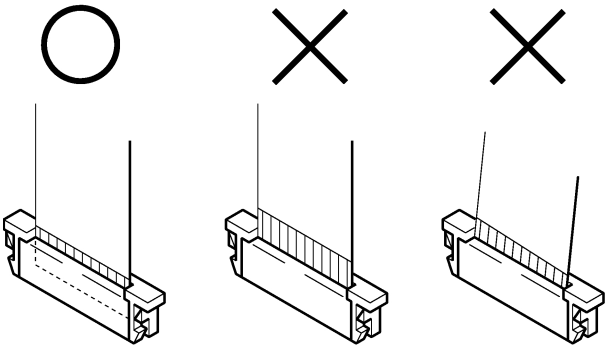
⑧ Let go your hold the cassette lid and rise the cassette compartment to take out a cassette.

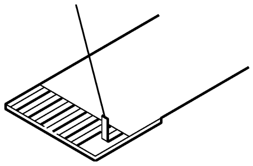
Press the cassette lid to rise the cassette compartment

Pincette
Timing belt
[DC power supply]
(+5V)
+
−
Loading motor
Disconnect CN4401 of VC-235 board.
Timing belt
Adjust the bending of a tape

3. NOTE FOR REPAIR

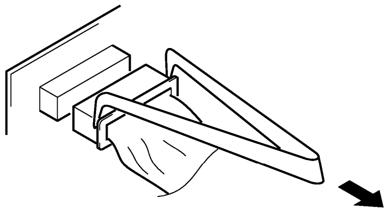
Make sure that the flat cable and flexible board are not cracked of bent at the terminal.
Do not insert the cable insufficiently nor crookedly.



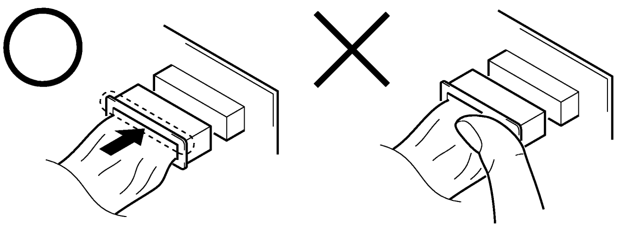


Cut and remove the part of gilt which comes off at the point.
(Be careful or some pieces of gilt may be left inside)

When remove a connector, don't pull at wire of connector.
It is possible that a wire is snapped.



When installing a connector, don't press down at wire of connector.
It is possible that a wire is snapped.



4. LCD TYPE CHECK

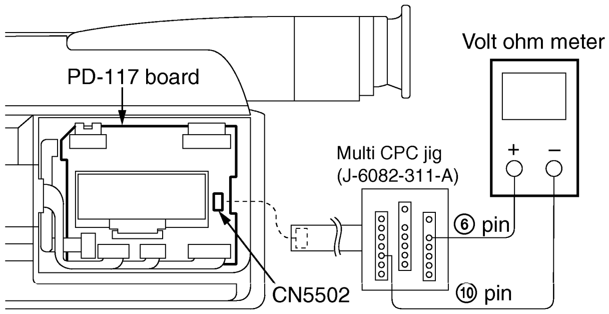
By measuring the resistor value between Pin ⑥ of CN5502 and Pin ⑩ of CN5502 on PD-117/118 board, the type of LCD can be discriminated.

Note: About PD-117/118 board and LCD module, discriminate LCD type on the machine, and replace the same type.

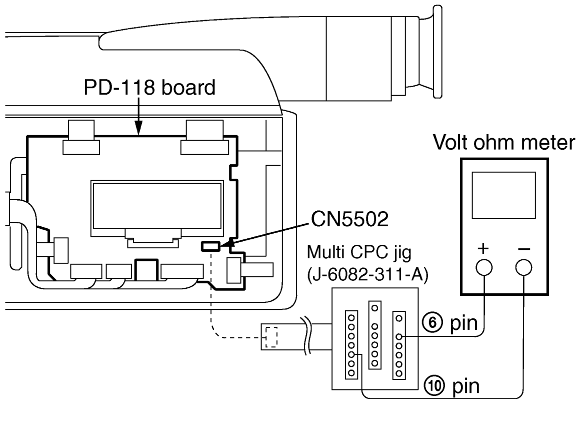
PD-117/118 board CN5502

Resistor value	LCD type	PD board
1 kΩ	2.5 LCD TYPE S 61 k	PD-117 (2.5 LCD TYPE S 61 k)
1.5 kΩ	2.5 LCD TYPE C 61 k	PD-117 (2.5 LCD TYPE C 61 k)
2.2 kΩ	2.5 LCD TYPE S 123 k	PD-117 (2.5 LCD TYPE S 123 k)
4.7 kΩ	3 LCD TYPE S	PD-118 (3 LCD TYPE S)
5.6 kΩ	3.5 LCD TYPE S	PD-118 (3.5 LCD TYPE S)
6.8 kΩ	3.5 LCD TYPE C	PD-118 (3.5 LCD TYPE C)
8.2 kΩ	4 LCD TYPE S	PD-118 (4 LCD TYPE S)
10 kΩ	4 LCD TYPE C	PD-118 (4 LCD TYPE C)

DCR-TRV320/TRV320E/TRV320P


Volt ohm meter
PD-117 board
Multi CPC jig
(J-6082-311-A)
+
–
⑥ pin
⑩ pin
CN5502

DCR-TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E/TRV720/TRV720E


PD-118 board
Volt ohm meter
CN5502
Multi CPC jig
(J-6082-311-A)
+
–
⑥ pin
⑩ pin

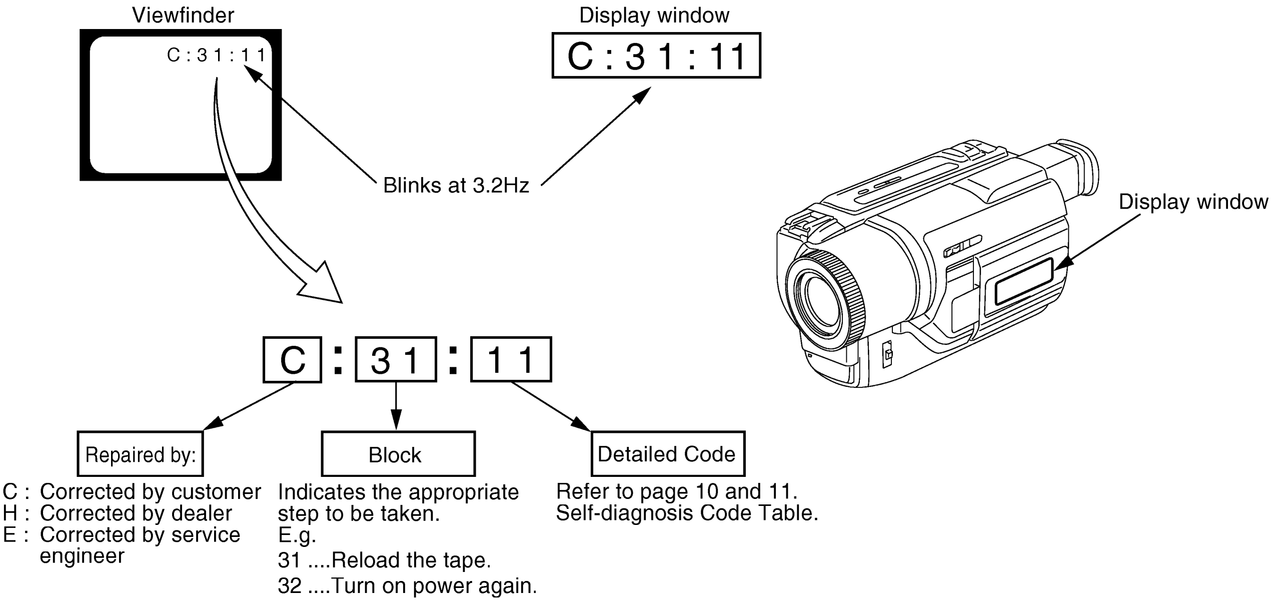
SELF-DIAGNOSIS FUNCTION

1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or Display window what to do. This function consists of two display; self-diagnosis display and service mode display.
Details of the self-diagnosis functions are provided in the Instruction manual.

2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or Display window shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the “repaired by:”, “block” in which the problem occurred, and “detailed code” of the problem.

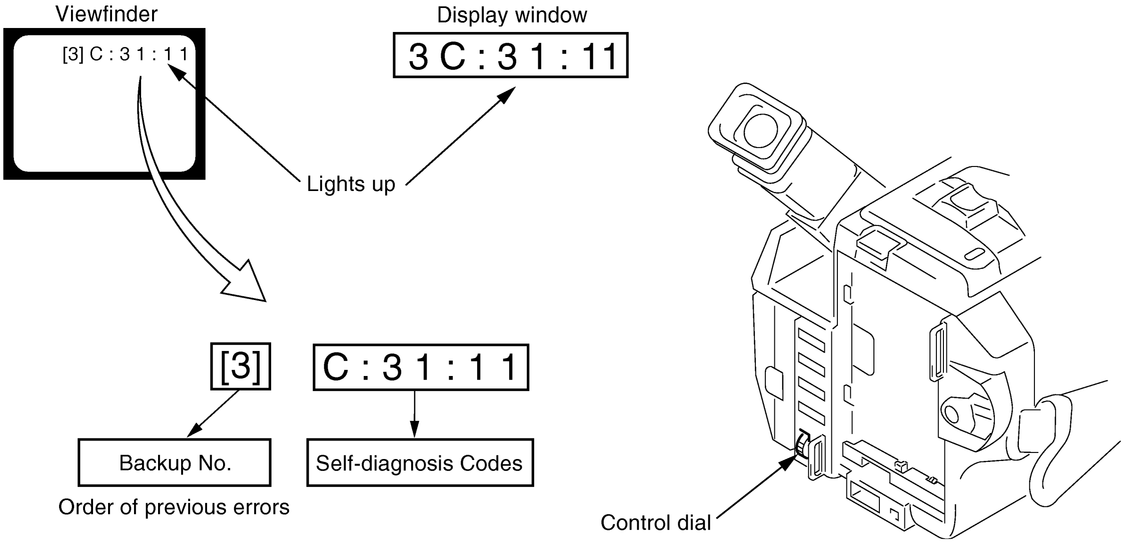

Viewfinder
C : 3 1 : 1 1
Display window
C : 3 1 : 11
Blinks at 3.2Hz
Display window
C : 31 : 1 1
Repaired by:
Block
Detailed Code
C : Corrected by customer
H : Corrected by dealer
E : Corrected by service engineer
Indicates the appropriate step to be taken.
E.g.
31 ....Reload the tape.
32 ....Turn on power again.
Refer to page 10 and 11.
Self-diagnosis Code Table.

3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

3-1. Display Method

While pressing the “STOP” key, set the switch from OFF to “VTR or PLAYER”, and continue pressing the “STOP” key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.


Viewfinder
[3] C : 3 1 : 1 1
Display window
3 C : 3 1 : 11
Lights up
[3]
C : 3 1 : 1 1
Backup No.
Self-diagnosis Codes
Order of previous errors
Control dial

3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

[1] : Occurred first time	[4] : Occurred fourth time
[2] : Occurred second time	[5] : Occurred fifth time
[3] : Occurred third time	[6] : Occurred the last time

3-3. End of Display

Turning OFF the power supply will end the service mode display.

Note: The “self-diagnosis display” data will be backed up by the coin-type lithium battery (CF-69/70/72 board BH001). When this coin-type lithium battery is disconnected, the “self-diagnosis display” data will be lost by initialization.

4. Self-diagnosis Code Table

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
C	2 1	0 0	Condensation.	Remove the cassette, and insert it again after one hour.
C	2 2	0 0	Video head is dirty.	Clean with the optional cleaning cassette.
C	2 3	0 0	Non-standard battery is used.	Use the InfoLITHIUM battery.
C	3 1	1 0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	1 1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
C	3 1	2 0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
C	3 1	2 2	T reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	2 3	S reel fault.	Load the tape again, and perform operations from the beginning.
C	3 1	3 0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
C	3 1	3 1	FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 1	PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
C	3 1	4 2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 3	PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 1	4 4	Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
C	3 2	1 0	LOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	1 1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	2 3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	3 1	FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 1	PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 3	PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
C	3 2	4 4	Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

Self-diagnosis Code			Symptom/State	Correction
Repaired by:	Block Function	Detailed Code		
E	6 1	0 0	Difficult to adjust focus (Cannot initialize focus)	Inspect the lens block focus reset sensor (Pin ⑨ of CN1551 of VC-235 board) when focusing is performed when the control dial is rotated in the focus manual mode and the focus motor drive circuit (IC1553 of VC-235 board) when the focusing is not performed. **Note:** Use the remote commander RM-95 only for the model without the focus dial.
E	6 1	1 0	Zoom operations fault (Cannot initialize zoom lens)	Inspect the lens block zoom reset sensor (Pin ⑩ of CN1551 of VC-235 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC1553 of VC-235 board) when zooming is not performed.
E	6 2	0 0	Handshake correction function does not work well. (With pitch angular velocity sensor output stopped)	Inspect pitch angular velocity sensor (SE201 of SE-104/112/114 board) peripheral circuits.
E	6 2	0 1	Handshake correction function does not work well. (With yaw angular velocity sensor output stopped)	Inspect yaw angular velocity sensor (SE202 of SE-104/112/114 board) peripheral circuits.

DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525 TRV620E/TRV720/TRV720E

SECTION 1
GENERAL

This section is extracted from DCR-TRV420E/TRV520E/TRV620E instruction manual.

English

Welcome!

Congratulations on your purchase of this Sony Digital Handycam camcorder. With your Digital Handycam, you can capture life's precious moments with superior picture and sound quality.
Your Digital Handycam is loaded with advanced features, but at the same time it is very easy to use. You will soon be producing home video that you can enjoy for years to come.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet.
Refer servicing to qualified personnel only.

NOTICE ON THE SUPPLIED AC POWER ADAPTOR FOR CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS1362 (i.e., marked with ◈ or ♡ mark) must be used.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service station.

ATTENTION

The electromagnetic fields at the specific frequencies may influence the picture and sound of this digital camcorder.

For the customers in Germany

Directive: EMC Directive 89/336/EEC.
92/31/EEC
This equipment complies with the EMC regulations when used under the following circumstances:
- Residential area
- Business district
- Light-industry district

(This equipment complies with the EMC standard regulations EN55022 Class B.)

Русский

Добро пожаловать!

Поздравляем Вас с приобретением данной видеокамеры Digital Handycam фирмы Sony. С помощью Вашей видеокамеры Digital Handycam Вы сможете запечатлеть дорогие Вам мгновения жизни с превосходным качеством изображения и звука.
Ваша видеокамера Digital Handycam оснащена усовершенствованными функциями, но в то же время ее очень легко использовать. Вскоре Вы будете создавать семейные видеопрограммы, которыми можете наслаждаться последующие годы.

ПРЕДУПРЕЖДЕНИЕ

Для предотвращения возгорания или опасности электрического удара не выставляйте аппарат на дождь или влагу.

Во избежание поражения электрическим током не открывайте корпус.
За обслуживанием обращаться только к квалифицированному обслуживающему персоналу.

ВНИМАНИЕ

Электромагнитные поля на определенных частотах могут влиять на изображение и звук, воспроизводимые данной цифровой видеокамерой.

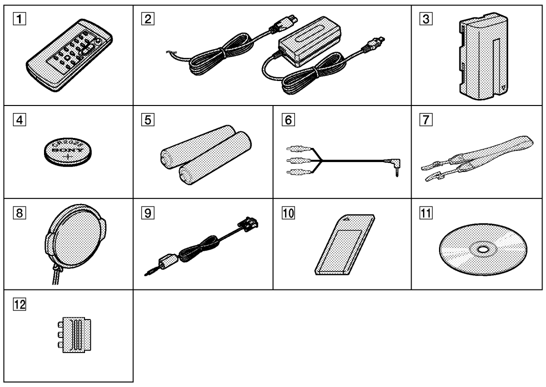
АЯ46

Checking supplied accessories

Make sure that the following accessories are supplied with your camcorder.

Проверка прилагаемых принадлежностей

Убедитесь, что следующие принадлежности прилагаются к Вашей видеокамере.



1. **Wireless Remote Commander** (1) (p. 170)
2. **AC-L10A/L10B/L10C AC power adaptor** (1), **Mains lead** (1) (p. 13)
3. **NP-F330 battery pack** (1) (p. 12, 13) DCR-TRV520E/TRV620E
   NP-F550 battery pack (1) (p. 12, 13) DCR-TRV420E
4. **CR2025 lithium battery** (1) (p. 139) The lithium battery is already installed in your camcorder.
5. **R6 (Size AA) battery for Remote Commander** (2) (p. 171)
6. **A/V connecting cable** (1) (p. 38)
7. **Shoulder strap** (1) (p. 167)
8. **Lens cap** (1) (p. 21)
9. **PC serial cable** (1) (p. 122)
10. **"Memory Stick"** (1) (p. 100)
11. **Application software: PictureGear 4.1 Lite (CD-ROM)** (1) (p. 122)
12. **21-pin adaptor** (1) (p. 39)

Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

1. **Беспроводный пульт дистанционного управления** (1) (стр. 170)
2. **Сетевой адаптер переменного тока AC-L10A/L10B/L10C** (1) (стр. 13)
3. **Батарейный блок NP-F330** (1) (стр. 12, 13) DCR-TRV520E/TRV620E
   Батарейный блок NP-F550 (1) (стр. 12, 13) DCR-TRV420E
4. **Литиевая батарейка CR2025** (1) (стр. 139) Литиевая батарейка уже установлена в Вашей видеокамере.
5. **Батарейка R6 (размера AA) для пульта дистанционного управления** (2) (стр. 171)
6. **Соединительный кабель аудио/видео** (1) (стр. 38)
7. **Плечевой ремень** (1) (стр. 167)
8. **Крышка объектива** (1) (стр. 21)
9. **Кабель для последовательного подсоединения к ПК** (1) (стр. 122)
10. **"Memory Stick"** (1) (стр. 100)
11. **Прикладное программное обеспечение: PictureGear 4.1 Lite (CD-ROM)** (1) (стр. 122)
12. **21-штырьковый адаптер** (1) (стр. 39)

Содержание записи не может быть компенсировано в случае, если запись или воспроизведение не выполнены из-за неисправности видеокамеры, видеоленты и т.п.

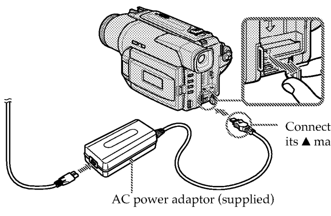
English

Quick Start Guide

This chapter introduces you to the basic features of your camcorder. See the page in parentheses "( )" for more information.

1 Connecting the mains lead (p. 18)

Use the battery pack when using your camcorder outdoors (p. 12).


Open the DC IN jack cover.

Connect the plug with its ▲ mark facing up.

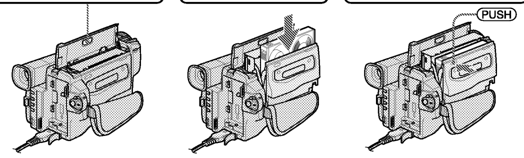
AC power adaptor (supplied)

2 Inserting a cassette (p. 19)

❶ Open the lid of the cassette compartment, and press EJECT. The compartment opens automatically.

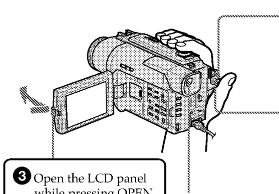
❷ Insert a cassette into the cassette compartment with its window facing out and the write-protect tab on the cassette up.

❸ Close the cassette compartment by pressing the (PUSH) mark on the cassette compartment. The cassette compartment automatically goes down. Close the lid of the cassette compartment.

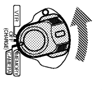


3 Recording a picture (p. 21)

❶ Remove the lens cap.

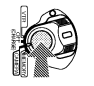


❷ Set the POWER switch to CAMERA while pressing the small green button.



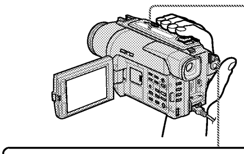
❸ Open the LCD panel while pressing OPEN. The picture appears on the LCD screen.

❹ Press the red button. Your camcorder starts recording. To stop recording, press the red button again.



Viewfinder
When the LCD panel is closed, use the viewfinder placing your eye against its eyecup.
The picture in the viewfinder is black and white (DCR-TRV420E/TRV520E only).

4 Monitoring the playback picture on the LCD screen (p. 33)



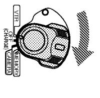
❷ Press ◀◀ to rewind the tape.

REW
◀◀

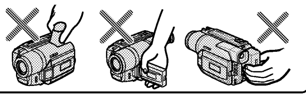
❸ Press ▶ to start playback.

PLAY
▷

❶ Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) while pressing the small green button.



Note
Do not pick up your camcorder by holding the viewfinder, the LCD panel or the battery pack.



— Getting started —

Using this manual

The instructions in this manual are for the three models listed in the table below. Before you start reading this manual and operating your camcorder, check the model number by looking at the bottom of your camcorder. The DCR-TRV620E is the model used for illustration purposes. Otherwise, the model name is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "DCR-TRV620E only."
As you read through this manual, buttons and settings on your camcorder are shown in capital letters.
e.g. Set the POWER switch to CAMERA.
When you carry out an operation, you can hear a beep sound to indicate that the operation is being carried out.

— Подготовка к эксплуатации —

Использование данного руководства

Инструкции в данном руководстве предназначены для трех моделей, перечисленных в таблице ниже. Перед тем, как прочесть данное руководство и начать эксплуатацию Вашей видеокамеры, проверьте номер модели на нижней стороне Вашей видеокамеры. В качестве иллюстративных целей используется модель DCR-TRV620E. В других случаях номер модели указан на рисунках. Какие-либо расхождения в эксплуатации четко указаны в тексте, например, "только DCR-TRV620E."
При чтении данного руководства учитывайте, что кнопки и установки на видеокамере показаны заглавными буквами.
Прим. Установите выключатель POWER в положение CAMERA.
При выполнении операции на видеокамере Вы сможете услышать зуммерный сигнал, подтверждающий выполнение операции.

Types of differences/Типы различий

DCR-	TRV420E	TRV520E	TRV620E
Viewfinder/ Видоискатель	B/W	B/W	colour
Digital zoom/ Цифровой вариообъектив	125×	100×	100×
POWER switch/ Переключатель POWER	PLAYER	PLAYER	VTR*

* The models which have VTR mode on the POWER switch can record pictures from other equipment such as VCR.

* Модели, в которых имеется режим VTR на переключателе POWER, могут записывать изображения с другого оборудования, как, например КВМ.

Before using your camcorder

With your digital camcorder, you can use Hi8 **Hi8**/Digital8 **D8** video cassettes. Your camcorder records and plays back pictures in the Digital8 **D8** system. Also, your camcorder plays back tapes recorded in the Hi8 **Hi8**/standard 8 **8** (analog) system. You, however, cannot use the functions in "Advanced Playback Operations" on page 64 to 72 for playback in the Hi8 **Hi8**/standard 8 **8** system. To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8 **Hi8**/standard 8 **8** with the Digital8 **D8** system on a tape.

Перед началом эксплуатации Вашей видеокамеры

Для Вашей цифровой видеокамеры Вы можете использовать видеокассеты Hi8 **Hi8**/Digital8 **D8**. Ваша видеокамера записывает и воспроизводит изображения в цифровой системе Digital8 **D8**. Также, Ваша видеокамера воспроизводит ленты, записанные в системе Hi8 **Hi8**/стандартной системе 8 **8** (аналоговой). Однако, Вы не можете использовать функции в разделе "Усовершенствованные операции воспроизведения" на страницах с 64 по 72 для воспроизведения в системе Hi8 **Hi8**/стандартной системе 8 **8**. Для обеспечения плавного перехода рекомендуется не смешивать на ленте изображения, записанные в системе Hi8 **Hi8**/стандартной системе 8 **8**, с изображениями, записанными в цифровой системе Digital8 **D8**.

Using this manual

Note on TV colour systems

TV colour systems differ from country to country. To view your recordings on a TV, you need a PAL system-based TV.

Copyright precautions

Television programmes, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

Precautions on camcorder care

- **The LCD screen and the viewfinder are manufactured using high-precision technology. However, there may be some tiny black points and/or bright points (red, blue, green or white) that constantly appear on the LCD screen and in the viewfinder. These points occur normally in the manufacturing process and do not affect the recorded picture in any way. Effective ratio of pixels and/or screen are 99.99% or more.**
- Do not let your camcorder get wet. Keep your camcorder away from rain and sea water. Letting your camcorder get wet may cause your camcorder to malfunction. Sometimes this malfunction cannot be repaired **[a]**.
- Never leave your camcorder exposed to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight **[b]**.
- Do not place your camcorder so as to point the viewfinder, the LCD screen or lens toward the sun. The inside of the viewfinder, LCD screen or lens may be damaged **[c]**.

Использование данного руководства

Примечание по системам цветного телевидения

Системы цветного телевидения отличаются в зависимости от страны. Для просмотра Ваших записей на экране телевизора Вам необходимо использовать телевизор, основанный на системе PAL.

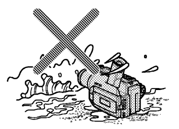
Предостережение об авторском праве

Телевизионные программы, кинофильмы, видеоленты и другие материалы могут быть защищены авторским правом. Нелицензированная запись таких материалов может противоречить положениям закона об авторском праве.

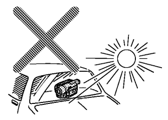
Меры предосторожности при уходе за видеокамерой

- **Экран ЖКД и видоискатель изготовлены с помощью высокопрецизионной технологии. Однако на экране ЖКД и в видоискателе могут постоянно появляться черные и/или яркие цветные точки (красные, синие, зеленые или белые).**
  Появление этих точек вполне нормально для процесса съемки и никоим образом не влияет на записываемое изображение. Свыше 99,99% экрана предназначено для эффективного использования.
- Не допускайте, чтобы видеокамера становилась влажной. Предохраняйте видеокамеру от дождя и морской воды. Если Вы намочите видеокамеру, то это может привести к неисправности аппарата, которая не всегда может быть устранена **[a]**.
- Никогда не оставляйте видеокамеру в месте с температурой выше 60°C (140°F), как, например, в автомобиле, оставленном на солнце или под прямым солнечным светом **[b]**.
- Не располагайте свою видеокамеру таким образом, чтобы видоискатель, экран ЖКД или объектив были направлены на солнце. Иначе может быть повреждено внутреннее устройство видоискателя, экрана ЖКД или объектива **[c]**.

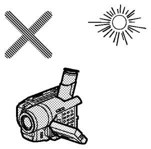
[a]



[b]



[c]



Step 1 Preparing the power supply

Installing the battery pack

Install the battery pack to use your camcorder outdoors.

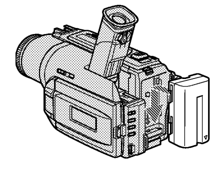
Slide the battery pack down until it clicks.

Пункт 1 Подготовка источника питания

Установка батарейного блока

Установите батарейный блок для того, чтобы использовать Вашу видеокамеру вне помещения.

Передвиньте батарейный блок вниз, так чтобы он защелкнулся на месте.

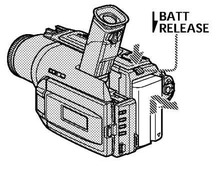


To remove the battery pack

Slide the battery pack out in the direction of the arrow while pressing ⬇ BATT RELEASE down.

Для снятия батарейного блока

Передвиньте батарейный блок в направлении стрелки, нажав кнопку ⬇ BATT RELEASE вниз.



After installing the battery pack

Do not carry your camcorder by holding the battery pack. If you do so, the battery pack may slide off your camcorder unintentionally, damaging your camcorder.

После установки батарейного блока

Не переносите свою видеокамеру, взявшись за батарейный блок. Если Вы так сделаете, батарейный блок может непроизвольно соскользнуть с Вашей видеокамеры и повредить ее.

Step 1 Preparing the power supply

Charging the battery pack

Use the battery pack after charging it for your camcorder.
Your camcorder operates only with the "InfoLITHIUM" battery pack (L series).

(1) Open the DC IN jack cover and connect the AC power adaptor supplied with your camcorder to the DC IN jack with the plug's ▲ mark facing up.
(2) Connect the mains lead to the AC power adaptor.
(3) Connect the mains lead to the mains.
(4) Set the POWER switch to OFF (CHARGE). Charging begins. The remaining battery time is indicated in minutes on the display window.

When the remaining battery indicator changes to ▬, **normal charge** is completed. To fully charge the battery **(full charge)**, leave the battery pack attached for about 1 hour after normal charge is completed until FULL appears in the display window. Fully charging the battery allows you to use the battery longer than usual.

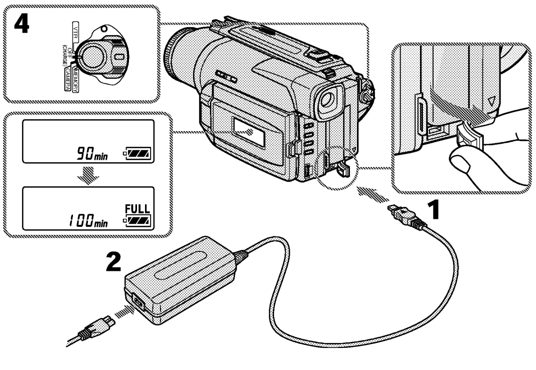
Пункт 1 Подготовка источника питания

Зарядка батарейного блока

Используйте батарейный блок для Вашей видеокамеры после его зарядки.
Ваша видеокамера работает только с батарейным блоком "InfoLITHIUM" (серии L).

(1) Откройте крышку гнезда DC IN и подсоедините сетевой адаптер переменного тока, прилагаемый к Вашей видеокамере, к гнезду DC IN, так чтобы штекер ▲ был направлен вверх.
(2) Подсоедините провод электропитания к сетевому адаптеру переменного тока.
(3) Подсоедините провод электропитания к сетевой розетке.
(4) Установите переключатель POWER в положение OFF (CHARGE). Начнется зарядка. В окошке дисплея будет отображаться время оставшегося заряда в минутах.

Если индикатор оставшегося заряда изменится на ▬, **это значит**, что нормальная зарядка завершена. Для полной зарядки батарейного блока **(полная зарядка)** оставьте батарейный блок прикрепленным на месте приблизительно на один час после завершения нормальной зарядки до тех пор, пока в окошке дисплея не появится индикация FULL. Полная зарядка батарейного блока позволяет Вам использовать батарейный блок дольше чем обычно.



After charging the battery pack

Disconnect the AC power adaptor from the DC IN jack on your camcorder.

Notes

- Prevent metallic objects from coming into contact with the metal parts of the DC plug of the AC power adaptor. This may cause a short-circuit, damaging the AC power adaptor.
- Keep the battery pack dry.
- When the battery pack is not to be used for a long time, charge the battery pack once fully, and then use it until it fully discharges again. Keep the battery pack in a cool place.

When the battery pack is charged fully

The LCD backlight of the display window is turned off.

Remaining battery time indicator

The remaining battery time indicator in the display window roughly indicates the recording time with the viewfinder.

Battery pack

The supplied battery pack is charged a little.

Until your camcorder calculates the actual remaining battery time

"– – – – min" appears in the display window.

While charging the battery pack, no indicator appears or the indicator flashes in the display window in the following cases:

– The battery pack is not installed correctly.
– The AC power adaptor is disconnected.
– Something is wrong with the battery pack.

После зарядки батарейного блока

Отсоедините сетевой адаптер переменного тока от гнезда DC IN на Вашей видеокамере.

Примечание

- Не допускайте контакта металлических предметов с металлическими частями штекера постоянного тока сетевого адаптера. Это может привести к короткому замыканию и повреждению Вашего сетевого адаптера.
- Содержите батарейный блок в сухом состоянии.
- Если батарейный блок предполагается не использовать длительное время, зарядите его полностью один раз, а затем используйте до тех пор, пока он снова полностью не разрядится. Храните батарейный блок в прохладном месте.

Если батарейный блок заряжен полностью

Задняя подсветка ЖКД в окошке дисплея выключится.

Индикатор времени оставшегося заряда батарейного блока

Индикатор времени оставшегося заряда батарейного блока в окошке дисплея приблизительно указывает время записи с помощью видоискателя.

Батарейный блок

Батарейный блок уже немного заряжен на предприятии-изготовителе.

До тех пор, пока Ваша видеокамера определит действительное время оставшегося заряда батарейного блока

В окошке дисплея будет отображаться индикация "– – – – min".

Во время зарядки батарейного блока никакой индикатор не появляется, или индикатор будет мигать в окошке дисплея в следующих случаях

– Батарейный блок установлен неправильно.
– Отсоединен сетевой адаптер переменного тока.
– Что-то не в порядке с батарейным блоком.

Charging time/Время зарядки

Battery pack/ Батарейный блок	Full charge (Normal charge)/ Полная зарядка (нормальная зарядка)
NP-F330 1)	150 (90)
NP-F530/F550 2)	210 (150)
NP-F730/F750	300 (240)
NP-F930/F950	390 (330)
NP-F960	420 (360)

Approximate number of minutes to charge an empty battery pack

1) Supplied with DCR-TRV520E/TRV620E
2) Supplied with DCR-TRV420E

Приблизительное время в минутах для зарядки полностью разряженного батарейного блока

1) Прилагается к DCR-TRV520E/TRV620E
2) Прилагается к DCR-TRV420E

Recording time/Время записи

Battery pack/ Батарейный блок	Recording with the viewfinder/ Запись с помощью видоискателя		Recording with the LCD screen/ Запись с помощью экрана ЖКД	
	Continuous 3) Непрерывная 3)	Typical 4) Типичная 4)	Continuous 3) Непрерывная 3)	Typical 4) Типичная 4)
NP-F330 1)	100 (90)	55 (50)	75 (65)	40 (35)
NP-F530	170 (155)	95 (90)	120 (105)	70 (60)
NP-F550 2)	205 (185)	115 (105)	145 (130)	80 (75)
NP-F730	350 (310)	200 (175)	265 (240)	150 (135)
NP-F750	425 (380)	240 (215)	305 (270)	175 (155)
NP-F930	555 (500)	315 (285)	415 (375)	235 (215)
NP-F950	650 (590)	370 (335)	475 (430)	270 (245)
NP-F960	765 (685)	435 (390)	565 (505)	320 (285)

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "(   )" indicate the time using a normally charged battery.

1) Supplied with DCR-TRV520E/TRV620E
2) Supplied with DCR-TRV420E
3) Approximate continuous recording time at 25°C (77°F). The battery life will be shorter if you use your camcorder in a cold environment.
4) Approximate number of minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

Приблизительное время в минутах при использовании полностью заряженного батарейного блока

Числа в скобках "(   )" указывают время при использовании батарейного блока с нормальной зарядкой.

1) Прилагается к DCR-TRV520E/TRV620E
2) Прилагается к DCR-TRV420E
3) Приблизительное время непрерывной записи при температуре 25°C (77°F). При использовании видеокамеры в холодных условиях срок службы батарейного блока будет короче.
4) Приблизительное время в минутах при записи с неоднократным пуском/остановкой записи, наездом видеокамеры и включением/выключением питания. Фактический срок службы заряда батарейного блока может быть короче.

Playing time/Время воспроизведения

Battery pack/ Батарейный блок	Playing time on LCD screen/ Время воспроизведения на экране ЖКД	Playing time with LCD closed/ Время воспроизведения при закрытом ЖКД
NP-F330 1)	70 (65)	100 (90)
NP-F530	115 (105)	165 (150)
NP-F550 2)	145 (130)	200 (180)
NP-F730	260 (235)	335 (300)
NP-F750	295 (265)	410 (365)
NP-F930	405 (370)	535 (480)
NP-F950	465 (420)	630 (570)
NP-F960	550 (495)	740 (665)

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "(   )" indicate the time using a normally charged battery. The battery life will be shorter if you use your camcorder in a cold environment.

1) Supplied with DCR-TRV520E/TRV620E
2) Supplied with DCR-TRV420E

Приблизительное время в минутах при использовании полностью заряженного батарейного блока

Цифры в скобках "(   )" указывают время при использовании батарейного блока с нормальной зарядкой. При использовании видеокамеры в холодных условиях срок службы батарейного блока будет короче.

1) Прилагается к DCR-TRV520E/TRV620E
2) Прилагается к DCR-TRV420E

The remaining battery time indicator

The indicator may not be correct, depending on the conditions in which you are recording. When you close the LCD panel and open it again, it takes about 1 minute for the correct remaining battery time to be displayed.

If the power may go off although the battery remaining indicator indicates that the battery pack has enough power to operate.

Charge the battery pack fully again so that the indication on the battery remaining indicator is correct.

What is "InfoLITHIUM"?

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data such as battery consumption with compatible electronic equipment. This unit is compatible with the "InfoLITHIUM" battery pack (L series). Your camcorder operates only with the "InfoLITHIUM" battery. "InfoLITHIUM" battery packs have the ⓘ InfoLITHIUM mark.
"InfoLITHIUM" is a trademark of Sony Corporation.

По индикатору времени оставшегося заряда батарейного блока во время записи

Индикатор может быть неправильным в зависимости от условий, в которых выполняется запись. Если Вы закроете панель ЖКД и откроете ее снова, то пройдет около 1 минуты, прежде чем на дисплее появится правильное время оставшегося заряда батарейного блока.

Если заряд может быть израсходован, а индикатор времени оставшегося заряда батарейного блока будет показывать, что заряд батарейного блока вполне достаточный для его эксплуатации.

Зарядите батарейный блок еще раз, так чтобы показание на индикаторе оставшегося заряда батарейного блока было правильным.

Что такое "InfoLITHIUM"?

"InfoLITHIUM" представляет собой литиево-ионный батарейный блок, который может обмениваться данными, такими как потребление заряда батарейного блока, с совместимой электронной аппаратурой. Это устройство совместимо с батарейным блоком "InfoLITHIUM" (серии L). Ваша видеокамера работает только с батарейным блоком "InfoLITHIUM". На батарейных блоках "InfoLITHIUM" имеется знак ⓘ InfoLITHIUM.
"InfoLITHIUM" является торговой маркой корпорации Sony Corporation.

Step 1 Preparing the power supply

Connecting to the mains

When you use your camcorder for a long time, we recommend that you power it from the mains using the AC power adaptor.

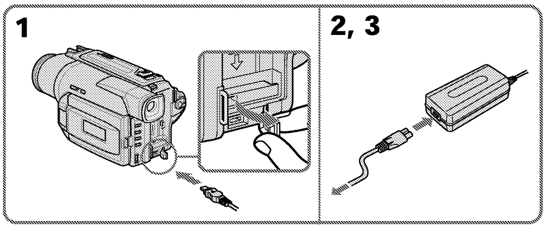
(1) Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on your camcorder with the plug's ▲ mark facing up.
(2) Connect the mains lead to the AC power adaptor.
(3) Connect the mains lead to the mains .

Пункт 1 Подготовка источника питания

Подсоединение к сетевой розетке

Если Вы собираетесь использовать видеокамеру длительное время, рекомендуется использовать питание от электрической сети с помощью сетевого адаптера переменного тока.

(1) Откройте крышку гнезда DC IN и подсоедините сетевой адаптер переменного тока к гнезду DC IN на Вашей видеокамеру, так чтобы знак ▲ на штекере был обращен вверх.
(2) Подсоедините провод электропитания к сетевому адаптеру переменного тока.
(3) Подсоедините провод электропитания к сетевой розетке.



PRECAUTION
The set is not disconnected from the AC power source (the mains) as long as it is connected to the mains, even if the set itself has been turned off.

Notes
- The AC power adaptor can supply power even if the battery pack is attached to your camcorder.
- The DC IN jack has "source priority". This means that the battery pack cannot supply any power if the mains lead is connected to the DC IN jack, even when the mains lead is not plugged into the mains.

Using a car battery
Use Sony DC Adaptor/Charger (not supplied).

ПРЕДОСТЕРЕЖЕНИЕ
Аппарата не отключается от источника переменного тока до тех пор, пока он подсоединен к электрической сети, даже если сам аппарат и выключен.

Примечания
- Питание от сетевого адаптера переменного тока может подаваться даже в случае, если батарейный блок прикреплен к Вашей видеокамере.
- Гнездо DC IN имеет "приоритет источника". Это значит, что питание от батарейного блока не может подаваться, если провод электропитания подсоединен к гнезду DC IN, даже если провод электропитания и не подсоединен к сетевой розетке.

Использование автомобильного аккумулятора
Используйте адаптер/зарядное устройство постоянного тока фирмы Sony (не прилагается).

Step 2 Inserting a cassette

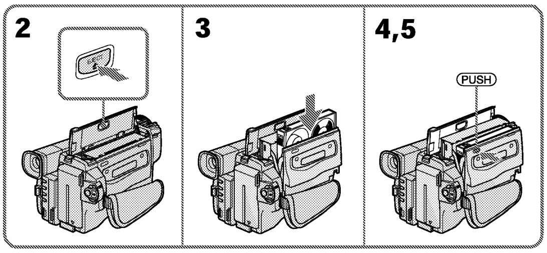
We recommend using Hi8 Hi8/Digital8 D8 video cassettes.

(1) Prepare the power supply (p. 12).
(2) Open the lid of the cassette compartment, and press EJECT. The cassette compartment opens automatically.
(3) Insert a cassette with its window facing out and the write-protect tab on the cassette up.
(4) Close the cassette compartment by pressing the PUSH mark on the cassette compartment. The cassette compartment automatically goes down.
(5) Close the lid of the cassette compartment.

Пункт 2 Установка кассеты

Рекомендуется использовать видеокассеты типа Hi8 Hi8/Digital8 D8.

(1) Приготовьте источник питания (стр. 12).
(2) Откройте крышку кассетного отсека и нажмите кнопку EJECT. Кассетный отсек автоматически откроется.
(3) Вставьте кассету, так чтобы окошко было обращено наружу, а лепесток защиты записи на кассете вверх.
(4) Закройте кассетный отсек, нажав метку PUSH на отсеке. Кассетный отсек автоматически закроется.
(5) Закройте крышку кассетного отсека.



To eject a cassette
Follow the procedure above, and eject the cassette in step **3**.

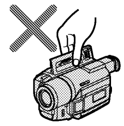
Для извлечения кассеты
Выполните приведенную выше процедуру и вытолкните кассету в пункте **3**.

Step 2 Inserting a cassette

Notes
- Do not press the cassette compartment down. Doing so may cause malfunction.
- Your camcorder records pictures in the Digital8 D8 system.
- The recording time when you use your camcorder is half of indicated time on Hi8 Hi8 tape. If you select the LP mode in the menu settings, 3/4 of indicated time on Hi8 Hi8 tape.
- If you use standard 8 8 tape, be sure to play back the tape on this camcorder. Mosaic-pattern noise may appear when you play back standard 8 8 tape on other camcorders (including other DCR-TRV420E/TRV520E/TRV620E).
- The cassette compartment may not be closed when you press any part of the lid other than the PUSH mark.
- Do not pick up your camcorder by holding the lid of the cassette compartment.

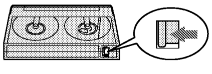
Пункт 2 Установка кассеты

Примечания
- Не нажимайте вниз кассетный отсек. Это может привести к неисправности.
- Ваша видеокамера выполняет запись изображений в системе Digital8 D8.
- Время записи при использовании Вашей цифровой видеокамеры в два раза меньше времени, указанного на ленте Hi8 Hi8. Если Вы выберите режим LP в установках, то время записи буде равно 3/4 меньше времени, указанного на ленте Hi8 Hi8.
- Если Вы используете стандартную ленту 8 8, то ее рекомендуется воспроизводить на этой же видеокамере. Записанные с помощью Вашей видеокамеры, на Вашей же видеокамере. В случае воспроизведения стандартных лент типа 8 8 на других видеокамерах, могут появиться помехи мозаичного типа (включая другие видеокамеры DCR-TRV420E/TRV520E/TRV620E).
- Кассетный отсек может не закрыться, если Вы нажмете на какое-либо другое место на крышке, а не на метку PUSH.
- Не поднимайте видеокамеру за крышку кассетного отсека.



To prevent accidental erasure
Slide the write-protect tab on the cassette to expose the red mark.

Для предотвращения случайного стирания
Передвиньте лепесток защиты записи на кассете, так чтобы появилась красная метка.



— Recording – Basics —

Recording a picture

Your camcorder automatically focuses for you.

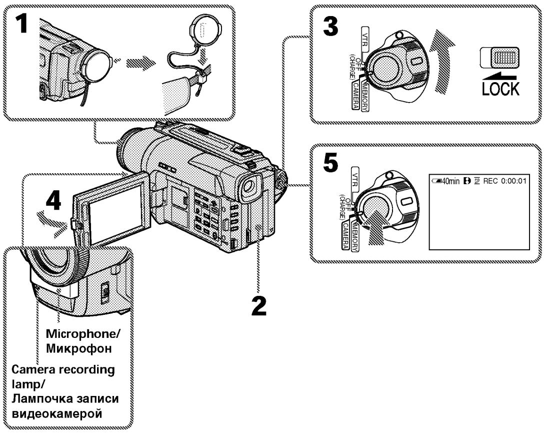
(1) Remove the lens cap by pressing both knobs on its sides and attach the lens cap to the grip strap.
(2) Install the power source and insert a cassette. See "Step 1" and "Step 2" for more information (p. 12 to 20).
(3) Set the POWER switch to CAMERA while pressing the small green button. Your camcorder is set to the standby mode.
(4) Open the LCD panel while pressing OPEN. The viewfinder automatically turns off.
(5) Press START/STOP. Your camcorder starts recording. The REC indicator appears. The camera recording lamp located on the front of your camcorder lights up. To stop recording, press START/STOP again.
The recording lamp lights up in the viewfinder when you record with the viewfinder. (DCR-TRV420E/TRV520E)

— Запись – Основные положения —

Запись изображения

Ваша видеокамера автоматически выполняет фокусировку за Вас.

(1) Снимите крышку объектива, нажав обе кнопки на ее кромке, и прикрепите крышку объектива к ремню для захвата.
(2) Установите источник питания и вставьте кассету. Подробные сведения приведены в "Пункте 1" и "Пункте 2" (стр. 12 – 20).
(3) Нажав маленькую зеленую кнопку, установите переключатель POWER в положение CAMERA. Ваша видеокамера переключится в режим ожидания.
(4) Нажав кнопку OPEN, откройте панель ЖКД. Видоискатель выключится автоматически.
(5) Нажмите кнопку START/STOP. Ваша видеокамера начнет запись. Появится индикатор REC. Высветится также лампочка записи, расположенная на передней панели видеокамеры. Для остановки записи нажмите кнопку START/STOP еще раз.
При записи с помощью видоискателя, внутри него высветится лампочка записи. (только DCR-TRV420E/TRV520E)



Notes
- Fasten the grip strap firmly.
- Do not touch the built-in microphone during recording.

Note on Recording mode
Your camcorder records and plays back in the SP (standard play) mode and in the LP (long play) mode. Select SP or LP in the menu settings (p. 85). In the LP mode, you can record 1.5 times as long as in the SP mode. When you record a tape in the LP mode on your camcorder, we recommend that you play back the tape on your camcorder.

Note on LOCK
When you slide LOCK to the left, the POWER switch can no longer be set to MEMORY accidentally. The LOCK is released as a default setting.

To enable smooth transition
You can make the transition between the last scene you recorded and the next scene smooth as long as you do not eject the cassette if you turn off your camcorder. When you change the battery pack, set the POWER switch to OFF (CHARGE).

If you leave your camcorder in the standby mode for 3 minutes
Your camcorder automatically turns off. This is to save battery power and to prevent battery and tape wear. To resume the standby mode, set the POWER switch to OFF (CHARGE) once, then turn it to CAMERA again.

Примечания
- Плотно пристегните ремень для захвата видеокамеры.
- Не прикасайтесь к встроенному микрофону во время записи.

Примечание по режиму записи
Ваша видеокамера выполняет запись и воспроизведение в режиме SP (стандартное воспроизведение) и в режиме LP (долгоиграющее воспроизведение). Выберите команду SP или LP в установках меню (стр. 85). В режиме LP Вы можете выполнять запись в 1,5 раза дольше по времени, чем в режиме SP. При выполнении на Вашей видеокамере записи на ленту в режиме LP рекомендуется воспроизводить эту ленту также на Вашей видеокамере.

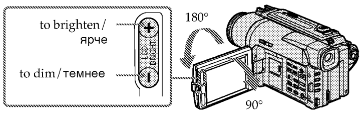
Примечание по режиму LOCK
Если Вы передвинете переключатель LOCK влево, переключатель POWER уже не может быть случайно установлен в положение MEMORY. Режим LOCK будет устанавливаться по умолчанию.

Для обеспечения плавного перехода
Вы можете выполнять плавный переход между последним записанным эпизодом и следующим эпизодом до тех пор, пока не извлечете кассету при выключенном питании. При замене батарейного блока установите переключатель POWER в положение OFF (CHARGE).

Если Вы оставите Вашу видеокамеру в режиме ожидания на 3 минуты
Видеокамера выключится автоматически. Это предотвращает расход заряда батарейного блока и износ ленты. Для возобновления режима ожидания установите переключатель POWER в положение блока установите сначала переключатель POWER в положение OFF (CHARGE), а затем снова поверните его в положение CAMERA.

Adjusting the LCD screen

To adjust the brightness of the LCD screen, press either of the two buttons on LCD BRIGHT.
The LCD panel moves about 90 degrees to the viewfinder side and about 180 degrees to the lens side.
If you turn the LCD panel over so that it faces the other way, the ☺ indicator appears on the LCD screen and in the viewfinder (**Mirror mode**).



When closing the LCD panel, set it vertically until it clicks, and swing it into the camcorder body.

Note
When using the LCD screen except in the mirror mode, the viewfinder automatically turns off.

When you use the LCD screen outdoors in direct sunlight
The LCD screen may be difficult to see. If this happens, we recommend that you use the viewfinder.

Picture in the mirror mode
The picture on the LCD is a mirror-image. However, the picture will be normal when recorded.

During recording in the mirror mode
You cannot operate the ZERO SET MEMORY on the Remote Commander.

Indicators in the mirror mode
The STBY indicator appears as ❚❚● and REC as ●. Some of other indicators appear mirror-reversed and others are not displayed.

Регулировка экрана ЖКД

Для регулировки яркости экрана ЖКД нажмите одну из кнопок на LCD BRIGHT.
Панель ЖКД может передвигаться примерно на 90 градусов в сторону видоискателя и примерно на 180 градусов в сторону объектива.
Если Вы повернете панель ЖКД так, что она будет направлена в другую сторону, на экране ЖКД появится индикатор ☺ (**Зеркальный режим**).

При закрывании панели ЖКД установите ее вертикально, пока не раздастся щелчок, а затем присоедините ее к корпусу видеокамеры.

Примечание
При использовании экрана ЖКД видоискатель автоматически выключается, кроме зеркального режима.

Если Вы используете экран ЖКД вне помещения под прямым солнечным светом
Возможно будет трудно разглядеть экран ЖКД. В этом случае рекомендуется использовать видоискатель.

Изображение в зеркальном режиме
Изображение на экране ЖКД будет отображаться зеркально. Однако запись изображения будет нормальной.

Во время записи в зеркальном режиме
Вы не можете оперировать кнопкой ZERO SET MEMORY на пульте дистанционного управления.

Индикаторы в зеркальном режиме
Индикатор STBY появится в виде ❚❚●, а индикатор REC в виде ●. Некоторые другие индикаторы появятся в зеркально отображенном виде, а некоторые из них не будут отображаться совсем.

After recording

(1) Set the POWER switch to OFF (CHARGE).
(2) Close the LCD panel.
(3) Eject the cassette.

Using the zoom feature

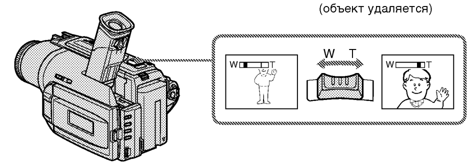
Move the power zoom lever a little for a slower zoom. Move it further for a faster zoom.
Using the zoom function sparingly results in better-looking recordings.
"T" side: for telephoto (subject appears closer)
"W" side: for wide-angle (subject appears farther away)

После записи

(1) Установите переключатель POWER в положение OFF (CHARGE).
(2) Закройте панель ЖКД.
(3) Извлеките кассету.

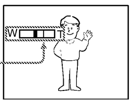
Использование функции наезда видеокамеры

Передвиньте рычаг приводного вариообъектива слегка для относительно медленного наезда видеокамеры.
Передвиньте его сильнее для ускоренного наезда видеокамеры.
Использование функции наезда видеокамеры в небольшом количестве обеспечивает наилучшие результаты.
Сторона "T": для телефото (объект приближается)
Сторона "W": для широкоугольного вида (объект удаляется)



Zoom greater than 25× is performed digitally. To activate digital zoom, select the digital zoom power in D ZOOM in the menu settings. (p. 85)
The picture quality deteriorates as the picture is processed digitally.

Наезд видеокамеры более 25× выполняется цифровым методом. Для приведения в действие цифрового вариообъектива выберите приводной цифровой вариообъектив D ZOOM в установках меню (стр. 85).
Поскольку обработка изображения выполняется цифровым способом, качество изображения несколько ухудшится.



The right side of the bar shows the digital zooming zone.
The digital zooming zone appears when you select the digital zoom power in D ZOOM in the menu settings./
Правая сторона полосы на экране показывает зону цифровой трансфокации.
Если Вы выберите приводной цифровой вариообъектив D ZOOM в установках меню, появится зона цифровой трансфокации.

Notes on digital zoom
- Digital zoom starts to function when zoom exceeds 25×.
- The picture quality deteriorates as you go toward the "T" side.

When you shoot close to a subject
If you cannot get a sharp focus, move the power zoom lever to the "W" side until the focus is sharp. You can shoot a subject that is at least about 80 cm (about 2 feet 5/8 inch) away from the lens surface in the telephoto position, or about 1 cm (about 1/2 inch) away in the wide-angle position.

To record pictures with the viewfinder – adjusting the viewfinder

If you record pictures with the LCD panel closed, check the picture with the viewfinder. Adjust the viewfinder lens to your eyesight so that the indicators in the viewfinder come into sharp focus.

Lift up the viewfinder and move the viewfinder lens adjustment lever.

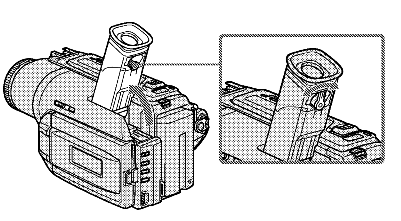
Примечания к наезду видеокамеры цифровым методом
- Цифровой вариообъектив начинает срабатывать в случае, если наезд видеокамеры превышает 25×.
- Качество изображения ухудшается по мере приближения к стороне "T".

При съемке объекта с близкого положения
Если Вы не можете получить четкой фокусировки, передвиньте рычаг приводного вариообъектива сторону "W" до получения четкой фокусировки. Вы можете выполнять съемку объекта в положении телефото, который отстоит по крайней мере на расстоянии 80 см от поверхности объектива или же около 1 см в положении широкоугольного вида.

Для записи изображений с помощью видоискателя – регулировка видоискателя

Если Вы будете записывать изображения при закрытой панели ЖКД, проверьте изображение с помощью видоискателя. Отрегулируйте объектив видоискателя в соответствии со своим зрением, так чтобы индикаторы в видоискателе были четко сфокусированы.

Поднимите видоискатель и подвигайте рычаг регулировки объектива видоискателя.

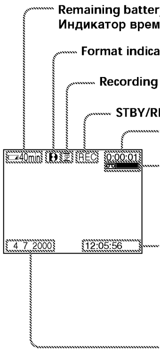


Indicators displayed in the recording mode

The indicators are not recorded on tape.

Индикаторы, отображаемые в режиме записи

Индикаторы не записываются на ленту.



Remaining battery time indicator/
Индикатор времени оставшегося заряда батарейного блока

Format indicator/Индикатор формата

Recording mode indicator/Индикатор режима записи

STBY/REC indicator/Индикатор STBY/REC

Time code/Tape counter indicator/
Код времени/Индикатор счетчика ленты

Remaining tape indicator
This appears after you start to record for a while./
Индикатор оставшейся ленты
Этот индикатор появляется через несколько секунд после установки кассеты.

Time indicator/Индикатор времени
This is displayed for five seconds after the POWER switch is set to CAMERA or MEMORY./
Он отображается около пяти секунд после того, как переключатель POWER установлен в положение CAMERA или MEMORY.

Date indicator/Индикатор даты
This is displayed for five seconds after the POWER switch is set to CAMERA or MEMORY./
Он отображается около пяти секунд после того, как переключатель POWER установлен в положение CAMERA или MEMORY.

Time code (for tapes recorded in the Digital8 Ð system only)
The time code indicates the recording or playback time, "0:00:00" (hours:minutes: seconds) in CAMERA mode and "0:00:00:00" (hours:minutes:seconds:frames) in VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/ TRV520E) mode. You cannot rewrite only the time code.
When you play back tapes recorded in the Hi8/ standard 8 system, the tape counter appears. You cannot reset the time code or the tape counter.

Код времени (только для лент, записанных в цифровой системе Digital8 Ð)
Код времени указывает время записи или воспроизведения, "0:00:00" (часы: минуты: секунды) в режиме CAMERA и "0:00:00:00" (часы: минуты: секунды: кадры) в режиме VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Вы не можете перезаписать только код времени.
При воспроизведении лент, записанных в системе Hi8/стандартной системе 8, появляется счетчик ленты.
Вы не можете переустановить код времени или счетчик ленты.

Shooting backlit subjects – BACK LIGHT

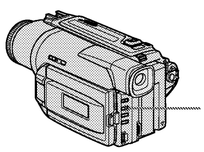
When you shoot a subject with the light source behind the subject or a subject with a light background, use the backlight function.

Press BACK LIGHT in CAMERA or MEMORY mode.
The ▣ indicator appears on the LCD screen or in the viewfinder.
To cancel, press BACK LIGHT again.

Съемка объектов с задней подсветкой – BACKLIGHT

Если Вы выполняете съемку объекта с источником света позади него или же объекта со светлым фоном, используйте функцию задней подсветки.

Нажмите кнопку BACK LIGHT в режиме CAMERA или MEMORY.
В видоискателе или на экране ЖКД появится индикатор ▣.
Для отмены нажмите кнопку BACK LIGHT еще раз.



If you press EXPOSURE when shooting backlit subjects
The backlight function is canceled.

Если вы нажмете кнопку EXPOSURE при выполнении съемки объектов с задней подсветкой
Функция задней подсветки будет отменена.

Shooting in the dark –NightShot/Super NightShot

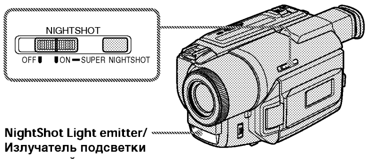
The NightShot function enables you to shoot a subject in a dark place. For example, you can satisfactorily record the environment of nocturnal animals for observation when you use this function.

While your camcorder is in CAMERA or MEMORY mode, slide NIGHTSHOT to ON.
⊡ and "NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder.
To cancel the NightShot function, slide NIGHTSHOT to OFF.

Съемка в темноте – Ночная съемка/Ночная суперсъемка

Функция ночной съемки позволяет Вам выполнять съемку объектов в темных местах. Например, Вы сможете с успехом выполнять съемку ночных животных для наблюдения при использовании данной функции.

В то время, когда видеокамера находится в режиме CAMERA или MEMORY, передвиньте переключатель NIGHTSHOT в положение ON. Индикаторы ⊡ и "NIGHTSHOT" начнут мигать на экране ЖКД или в видоискателе. Для отмены функции ночной съемки передвиньте переключатель NIGHTSHOT в положении OFF.



Using SUPER NIGHTSHOT

The Super NightShot mode makes subjects up to 16 times brighter than those recorded in the NightShot mode.

(1) Slide NIGHTSHOT to ON in CAMERA mode. ⊡ and "NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder.
(2) Press SUPER NIGHTSHOT. S⊡ and "SUPER NIGHTSHOT" indicators flash on the LCD screen or in the viewfinder.
To cancel the Super NightShot mode, press SUPER NIGHTSHOT again.

Using the NightShot Light

The picture will be clearer with the NightShot Light on. To enable NightShot Light, set N.S.LIGHT to ON in the menu settings (p. 85).

Использование режима SUPER NIGHTSHOT

Режим ночной суперсъемки позволяет сделать объекты более чем в 16 раз ярче, чем в случае, если Вы будете выполнять съемку в темноте в режиме ночной съемки.

(1) Передвиньте переключатель NIGHTSHOT в положение ON в режиме CAMERA. На экране ЖКД или в видоискателе появятся индикаторы ⊡ и "NIGHTSHOT".
(2) Нажмите кнопку SUPER NIGHTSHOT. На экране ЖКД или в видоискателе начнут мигать индикаторы S⊡ и "SUPER NIGHTSHOT".
Для отмены режима ночной суперсъемки нажмите кнопку SUPER NIGHTSHOT еще раз.

Использование подсветки для ночной съемки

Изображение станет ярче, если включить функцию ночной подсветки. Для включения функции ночной подсветки установите переключатель N.S.LIGHT в положение ON в установках меню (стр. 85).

Notes
- Do not use the NightShot function in bright places (ex. outdoors in the daytime). This may cause your camcorder to malfunction.
- When you keep NIGHTSHOT set to ON in normal recording, the picture may be recorded in incorrect or unnatural colours.
- If focusing is difficult with the autofocus mode when using the NightShot function, focus manually.

While using the NightShot function, you can not use the following functions:
– Exposure
– PROGRAM AE

While using the Super NightShot function, you can not use the following functions:
– Fader
– Digital effect
– Exposure
– PROGRAM AE

Shutter speed in the Super NightShot mode
The shutter speed will be automatically changed depending on the brightness of the background. The motion of the picture will be slow.

NightShot Light
NightShot Light rays are infrared and so are invisible. The maximum shooting distance using the NightShot Light is about 3 m (10 feet).

Примечания
- Не используйте функцию ночной съемки в ярких местах (например, на улице в дневное время). Это может привести к неисправности Вашей видеокамеры.
- При удержании установки NIGHTSHOT в положении ON при нормальной записи изображение может быть записано в неправильных или неестественных цветах.
- Если фокусировка затруднена в автоматическом режиме при использовании функции ночной съемки, выполните фокусировку вручную.

При использовании функции ночной съемки Вы не можете использовать следующие функции:
– Экспозиция
– PROGRAM AE

При использовании функции ночной суперсъемки Вы не можете использовать следующие функции:
– Фейдер
– Цифровой эффект
– Экспозиция
– PROGRAM AE

Скорость затвора в режиме ночной суперсъемки
Скорость затвора будет автоматически изменяться в зависимости от яркости фона. Воспроизведение изображения будет замедленным.

Подсветка для ночной съемки
Лучи подсветки для ночной съемки являются инфракрасными и поэтому невидимыми. Максимальное расстояние для съемки при использовании подсветки для ночной съемки равно примерно 3 м.

Recording a picture

Self-timer recording

Recording with the self-timer starts in 10 seconds automatically.
This mode is useful when you want to record yourself. You can also use the Remote Commander for this operation.

(1) Press ⏲ (self-timer) in the standby mode.
The ⏲ (self-timer) indicator appears on the LCD screen or in the viewfinder.

(2) Press START/STOP.
Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.

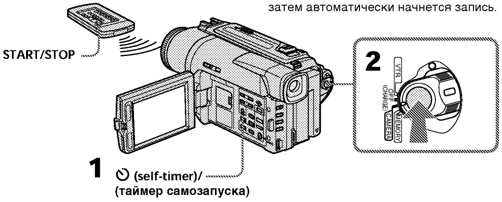
Запись изображения

Запись по таймеру самозапуска

Запись с помощью таймера самозапуска начнется через 10 секунд автоматически.
Этот режим является полезным в том случае, если Вы хотите выполнить запись самого себя. Для этой операции Вы можете также использовать пульт дистанционного управления.

(1) Нажмите кнопку ⏲ (таймер самозапуска) в режиме ожидания. На экране ЖКД или в видоискателе появится индикатор ⏲ (таймер самозапуска).

(2) Нажмите кнопку START/STOP.
Таймер самозапуска начнет обратный отсчет от 10 с зуммерным сигналом. В последние две секунды обратного отсчета зуммерный сигнал будет звучать чаще, а затем автоматически начнется запись.



To stop the self-timer recording
Press START/STOP.
Use the Remote Commander for convenience.

To record still images using the self-timer
Press PHOTO in step 2. (P. 43)

To cancel self-timer recording
Press ⏲ (self-timer) so that the ⏲ indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode.

Note
The self-timer recording mode is automatically cancelled when:
- Self-timer recording is finished.
- The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

Для остановки таймера самозапуска
Нажмите кнопку START/STOP.
Используйте для удобства пульт дистанционного управления.

Для записи неподвижных изображений с помощью таймера самозапуска
Нажмите кнопку PHOTO в пункте 2. (стр. 43)

Для отмены записи по таймеру самозапуска
Нажмите кнопку ⏲ (таймер самозапуска), так чтобы индикатор ⏲ исчез с экрана ЖКД или видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания.

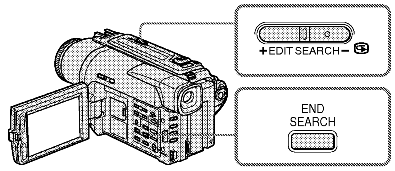
Примечание
Режим записи по таймеру самозапуска будет автоматически отменен в случаях:
- Окончания записи по таймеру самозапуска.
- Установки переключателя POWER в положение OFF (CHARGE), VTR (модель DCR-TRV620E) или PLAYER (модель DCR-TRV420E/TRV520E).

Checking the recording
– END SEARCH / EDITSEARCH / Rec Review

You can use these buttons to check the recorded picture or shoot so that the transition between the last recorded scene and the next scene you record is smooth.

Проверка записи
– END SEARCH / EDITSEARCH / Просмотр записи

Вы можете использовать эти кнопки для проверки записанного изображения или съемки, так чтобы переход между последним записанным эпизодом и следующим записываемым эпизодом был плавным.



END SEARCH

You can go to the end of the recorded section after you record.

Press END SEARCH in the standby mode.
The last 5 seconds of the recorded section are played back and returns to the standby mode. You can monitor the sound from the speaker or headphones.

EDITSEARCH

You can search for the next recording start point.

Hold down the +/– (⊜) side of EDITSEARCH in the standby mode. The recorded section is played back.
+: to go forward
–: to go backward
Release EDITSEARCH to stop playback. If you press START/STOP, re-recording begins from the point you released EDITSEARCH. You cannot monitor the sound.

END SEARCH

Вы можете дойти до конца записанной части ленты после выполнения записи.

Нажмите кнопку END SEARCH в режиме ожидания. Будут воспроизведены последние 5 секунд, после чего видеокамера вернется в режим ожидания. Вы можете контролировать звук через динамик или головные телефоны.

EDITSEARCH

Вы можете выполнять поиск места начала следующей записи.

Держите нажатой сторону +/– (⊜) кнопки EDITSEARCH в режиме ожидания. Будет воспроизведена записанная часть.
+ : для продвижения вперед
– : для продвижения назад
Отпустите кнопку EDITSEARCH для остановки воспроизведения. Если Вы нажмете кнопку START/STOP, начнется перезапись с того места, где Вы отпустили кнопку EDITSEARCH. Вы не можете контролировать звук.

Checking the recording
– END SEARCH / EDITSEARCH / Rec Review

Rec Review

You can check the section which you have stopped most recently.

Press the – (⊜) side of EDITSEARCH momentarily in the standby mode.
The section you have stopped most recently will be played back for a few seconds, and then your camcorder will return to the standby mode. You can monitor the sound from the speaker or headphones.

Notes
- END SEARCH, EDITSEARCH and Rec Review work only for tapes recorded in the Digital8 Ð system.
- If you start recording after using the end search function, occasionally, the transition between the last scene you recorded and the next scene may not be smooth.
- Once you eject the cassette after you have recorded on the tape, the end search function does not work.

If a tape has a blank portion in the recorded portions
The end search function may not work correctly.

Проверка записи
– END SEARCH / EDITSEARCH / Просмотр записи

Просмотр записи

Вы можете проверить последнюю записанную часть.

Нажмите кратковременно сторону – (⊜) кнопки EDITSEARCH в режиме ожидания. Будут воспроизведены последние несколько секунд записанной части. Вы можете контролировать звук через акустическую систему или головные телефоны.

Примечания
- Функции END SEARCH, EDITSEARCH и просмотра записи работают только для лент, записанных в цифровой системе Digital8 Ð.
- Если Вы случайно начали запись после использования функции поиска конца записи, то переход между последним записанным эпизодом и следующим записываемым эпизодом может не быть плавным.
- Если Вы вытолкните кассету после того, как будет выполнена запись на ленте, функция поиска конца записи не будет работать.

Если на ленте между записанными частями имеется незаписанный участок
Функция поиска может не работать.

— Playback – Basics —

Playing back a tape

You can monitor the playback picture on the LCD screen. If you close the LCD panel, you can monitor the playback picture in the viewfinder. You can control playback using the Remote Commander supplied with your camcorder.

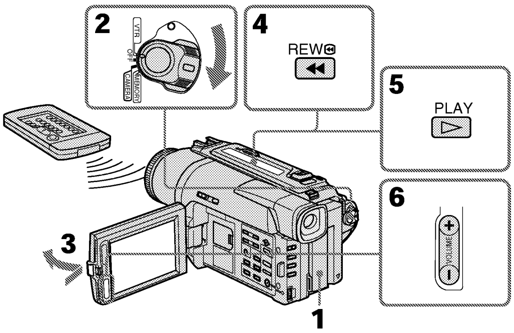
(1) Install the power source and insert the recorded tape.
(2) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) while pressing the small green button. The video control buttons light up.
(3) Open the LCD panel while pressing OPEN.
(4) Press ◀◀ to rewind the tape.
(5) Press ► to start playback.
(6) To adjust the volume, press either of the two buttons on VOLUME. The speaker on your camcorder is silent when the LCD panel is closed.

— Воспроизведение – Основные положения —

Воспроизведение ленты

Вы можете контролировать воспроизводимое изображение на экране ЖКД. Если Вы закроете панель ЖКД, Вы можете контролировать воспроизводимое изображение в видоискателе. Вы можете контролировать воспроизведение с помощью пульта дистанционного управления, прилагаемого к Вашей видеокамере.

(1) Установите источник питания и вставьте записанную ленту.
(2) Нажав маленькую зеленую кнопку, установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Появится индикация кнопок управления.
(3) Нажав кнопку OPEN, откройте панель ЖКД.
(4) Нажмите кнопку ◀◀ для ускоренной перемотки ленты назад.
(5) Нажмите кнопку ► для включения воспроизведения.
(6) Для регулировки громкости нажимайте одну из двух кнопок VOLUME. Если панель ЖКД на Вашей видеокамере закрыта, динамик не будет работать.

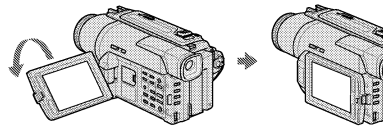


To stop playback
Press ■.

Для остановки воспроизведения
Нажмите кнопку ■.

When monitoring on the LCD screen
You can turn the LCD panel over and move it back to the camcorder body with the LCD screen facing out.

Во время контроля на экране ЖКД
Вы можете повернуть панель управления и придвинуть ее обратно на место к корпусу видеокамеры, так что экран ЖКД будет обращен наружу.

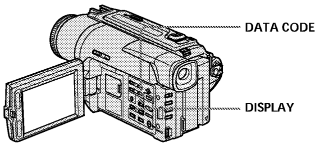


To display the screen indicators – Display function

Press DISPLAY on your camcorder or the Remote Commander supplied with your camcorder.
The indicators appear on the LCD screen.
To make the indicators disappear, press DISPLAY again.

Для отображения экранных индикаторов – Функция индикации

Нажмите кнопку DISPLAY на Вашей видеокамере или на пульте дистанционного управления, который прилагается к Вашей видеокамере.
На экране ЖКД появятся индикаторы. Для того, чтобы индикаторы исчезли, нажмите еще раз кнопку DISPLAY.

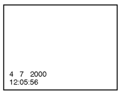


Using the data code function

Your camcorder automatically records not only images on the tape but also the recording data (date/time or various settings when recorded) **(Data code)**.

Press DATA CODE on your camcorder or the Remote Commander in the playback mode.

The display changes as follows:
date/time → various settings (SteadyShot, exposure AUTO/MANUAL, white balance, gain, shutter speed, aperture value) → no indicator



Not to display recording date
Set DATA CODE to DATE in the menu settings (p. 85).
The display changes as follows:
date/time → no indicator

Notes on the data code function
- The data code function works only for tapes recorded in the Digital8 system.
- Various settings of the recording data are not recorded when recording images on "Memory Stick."

Recording data
Recording data is your camcorder's information when you have recorded. In the recording mode, the recording data will not be displayed.

When you use data code function, bars (-- -- ---- and -- : -- : --) appear if:
- A blank section of the tape is being played back.
- The tape is unreadable due to tape damage or noise.
- The tape was recorded by a camcorder without the date and time set.

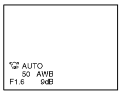
Data Code
When you connect your camcorder to the TV, the data code appears on the TV screen.

Использование функции кода даты

Ваша видеокамера автоматически записывает не только изображения на ленту, но также и данные записи (дату/время или разные установки при записи).
(Код даты).

Нажмите кнопку DATE CODE на Вашей видеокамере или пульте дистанционного управления в режиме воспроизведения.

Индикация будет изменяться следующим образом:
дата/время → разные установки (устойчивая съемка, экспозиция AUTO/MANUAL, баланс белого, усиление, скорость затвора, величина диафрагмы) → без индикации



Для того, чтобы не отображались данные записи
Установите команду DATE CODE в положение DATE в установках меню (стр. 85).
Индикация будет изменяться следующим образом:
дата/время → без индикации

Примечания по функции кода данных
- Функция кода данных работает только для лент, записанных в цифровой системе Digital8.
- Разные установки данных записи не записываются при записи изображений на "Memory Stick".

Записанные данные
Записанные данные несут информацию о записи, выполненной Вашей видеокамерой. В режиме записи данные отображаться не будут.

Если Вы используете функцию кода данных, то появятся полосы (-- -- --- или -- : -- : --), если:
- Воспроизводится незаписанный участок на ленте.
- Лента является не читаемой из-за повреждения или помех.
- Запись на ленту была выполнена видеокамерой без установки даты и времени.

Код данных
Если Вы подсоедините Вашу видеокамеру к телевизору, на экране появится код данных.

Various playback modes

To operate video control buttons, set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

To view a still picture (playback pause)

Press II during playback. To resume playback, press II or ►.

To advance the tape

Press ►► in the stop mode. To resume normal playback, press ►.

To rewind the tape

Press ◄◄ in the stop mode. To resume normal playback, press ►.

To change the playback direction

Press < on the Remote Commander during playback to reverse the playback direction. To resume normal playback, press ►.

To locate a scene monitoring the picture (picture search)

Keep pressing ◄◄ or ►► during playback. To resume normal playback, release the button.

To monitor the high-speed picture while advancing or rewinding the tape (skip scan)

Keep pressing ◄◄ while rewinding or ►► while advancing the tape. To resume rewinding or advancing, release the button.

To view the picture at slow speed (slow playback)

Press I► on the Remote Commander during playback. For slow playback in the reverse direction, press <, then press I► on the Remote Commander. To resume normal playback, press ►.

Переменные режимы воспроизведения

Для выполнения управления кнопками установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

Для просмотра изображения (пауза воспроизведения)

Нажмите во время воспроизведения кнопку II. Для возобновления обычного воспроизведения нажмите кнопку II или кнопку ►.

Для ускоренной перемотки ленты вперед

Нажмите в режиме остановки кнопку ►►. Для возобновления обычного воспроизведения нажмите кнопку ►.

Для ускоренной перемотки ленты назад

Нажмите в режиме остановки кнопку ◄◄. Для возобновления обычного воспроизведения нажмите кнопку ►.

Для изменения направления воспроизведения

Нажмите кнопку < на пульте дистанционного управления во время воспроизведения для изменения направления воспроизведения. Для возобновления обычного воспроизведения, отпустите кнопку ►.

Для отыскания эпизода во время контроля изображения (поиск изображения)

Держите нажатой кнопку ◄◄ или ►► во время воспроизведения. Для восстановления обычного воспроизведения отпустите кнопку.

Для контроля изображения на высокой скорости во время ускоренной перемотки ленты вперед или назад (поиск методом прогона)

Держите нажатой кнопку ◄◄ во время ускоренной перемотки ленты назад или кнопку ►► во время ускоренной перемотки ленты вперед. Для возобновления обычной перемотки ленты вперед или назад отпустите кнопку.

Для просмотра воспроизведения изображения на замедленной скорости (замедленное воспроизведение)

Нажмите во время воспроизведения кнопку I► на пульте дистанционного управления. Для замедленного воспроизведения в обратном направлении нажмите кнопку <, а затем нажмите кнопку I► на пульте дистанционного управления. Для возобновления обычного воспроизведения нажмите кнопку ►.

To view the picture at double speed

Press ×2 on the Remote Commander during playback. For double speed playback in the reverse direction, press <, then press ×2 on the Remote Commander. To resume normal playback, press ►.

To view the picture frame-by-frame

Press II► on the Remote Commander in the playback pause mode. For frame-by-frame playback in the reverse direction, press ◄II. To resume normal playback, press ►.

To search the last scene recorded (END SEARCH)

Press END SEARCH in the stop mode. The last 5 seconds of the recorded section plays back and stops.

In the various playback modes
- Noise may appear when your camcorder plays back tapes recorded in the Hi8/standard 8 system.
- Sound is muted.
- The previous recording may appear as a mosaic image when playing back in the Digital8 system.

Notes on the playback pause mode
- When the playback pause mode lasts for 3 minutes, your camcorder automatically enters the stop mode.
  To resume playback, press ►.
- The previous recording may appear.

Slow playback for tapes recorded in the Digital8 system
The slow playback can be performed smoothly on your camcorder; however, this function does not work for an output signal from the the DV IN/OUT or DV OUT jack.

When you play back a tape in reverse
Horizontal noise may appear at the center or top and bottom of the screen. This is not a malfunction.

Для просмотра воспроизведения изображения на удвоенной скорости

Нажмите кнопку ×2 на пульте дистанционного управления во время воспроизведения. Для воспроизведения на удвоенной скорости в обратном направлении нажмите кнопку <, а затем кнопку ×2 на пульте дистанционного управления. Для возобновления обычного воспроизведения нажмите кнопку ►.

Для покадрового просмотра воспроизведения изображения

Нажмите кнопку II► на пульте дистанционного управления в режиме паузы воспроизведения. Для покадрового воспроизведения в обратном направлении нажмите кнопку ◄II. Для возобновления обычного воспроизведения нажмите кнопку ►.

Для поиска последнего записанного эпизода (END SEARCH)

Нажмите кнопку END SEARCH в режиме остановки. Будут воспроизведены последние 5 секунд записанного участка на ленте, после чего воспроизведение остановится.

В переменных режимах воспроизведения
- При воспроизведении на видеокамере лент Hi8/8 могут появиться помехи
- Звук будет приглушен.
- При воспроизведении в цифровой системе Digital8 изображение предыдущих записей может стать мозаичным.

Примечания по режиму паузы воспроизведения
- Если режим паузы воспроизведения продлится около 3 минут, Ваша видеокамера автоматически войдет в режим остановки.
  Для возобновления воспроизведения нажмите кнопку ►.
- Может появиться предыдущая запись.

Замедленное воспроизведение для лент, записанныз в цифровой системе Digital8
Замедленное воспроизведение может выполняться на Вашей видеокамере без помех; однако эта функция не работает через выходной сигнал из гнезда DV IN/OUT или гнезда DV OUT.

При воспроизведении ленты в обратном направлении
На экране могут появиться горизонтальные помехи по центру или же вверху и внизу экрана. Это не является неисправностью.

Viewing the recording on TV

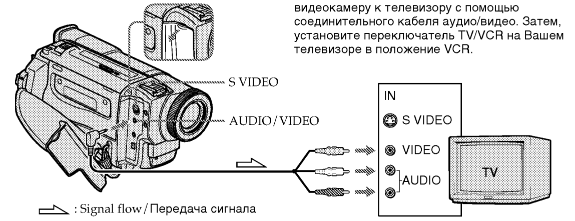
Connect your camcorder to your TV or VCR with the A/V connecting cable supplied with your camcorder to watch the playback picture on the TV screen. You can operate the playback control buttons in the same way as when you monitor playback pictures on the LCD screen. When monitoring the playback picture on the TV screen, we recommend that you power your camcorder from the mains using the AC power adaptor (p. 13). Refer to the operating instructions of your TV or VCR.

Open the jack cover. Connect your camcorder to the TV using the A/V connecting cable. Then, set the TV/VCR selector on the TV to VCR.

Просмотр записи на экране телевизора

Подсоедините Вашу видеокамеру к Вашему телевизору или КВМ с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере для просмотра воспроизводимого изображения на экране телевизора. Вы можете оперировать кнопками управления воспроизведением таким же способом, как при управлении воспроизводимым изображением на экране ЖКД. При управлении воспроизводимым изображением на экране телевизора рекомендуется подключить питание к Вашей видеокамере от сетевой розетки с помощью сетевого адаптера переменного тока (стр. 13). См. инструкцию по эксплуатации Вашего телевизора или КВМ.

Откройте крышку гнезд. Подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео. Затем, установите переключатель TV/VCR на Вашем телевизоре в положение VCR.



: Signal flow/Передача сигнала

If your TV is already connected to a VCR

Connect your camcorder to the LINE IN input on the VCR by using the A/V connecting cable supplied with your camcorder. Set the input selector on the VCR to LINE.

If your TV or VCR is a monaural type

Connect the yellow plug of the A/V connecting cable to the video input jack and the white or the red plug to the audio input jack on the VCR or the TV. If you connect the white plug, the sound is L (left) signal. If you connect the red plug, the sound is R (right) signal.

Если Ваш телевизор уже подсоединен к КВМ

Подсоедините Вашу видеокамеру к входному гнезду LINE IN на КВМ с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере. Установите селектор входного сигнала на КВМ в положение LINE.

Если Ваш телевизор или КВМ монофонического типа

Подсоедините желтый штекер соединительного кабеля аудио/видео к входному гнезду видеосигнала и белый или красный штекер к входному гнезду аудиосигнала на КВМ или телевизоре.
Если Вы подсоедините белый штекер, то будет звук L (левый) канал.
Если Вы подсоедините красный штекер, то будет звук R (правый) канал.

Viewing the recording on TV

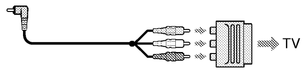
If your TV/VCR has a 21-pin connector (EUROCONNECTOR)

Use the 21-pin adaptor supplied with your camcorder.

Просмотр записи на экране телевизора

Если в Вашем телевизоре/КВМ имеется 21-штырьковый разъем (EUROCONNECTOR)

Используйте 21-штырьковый адаптер, прилагаемый к Вашей видеокамере.



If your TV or VCR has an S video jack
Connect using an S video cable (not supplied) to obtain high-quality pictures. With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable. Connect an S video cable (not supplied) to the S video jacks on both your camcorder and the TV or the VCR.

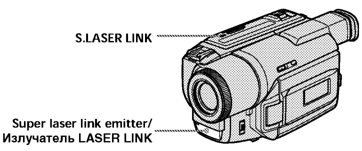
Если в Вашем телевизоре имеется гнездо S видео
При данном соединении Вам не нужно подсоединять желтый штекер (видео) соединительного кабеля аудио/видео. Подсоедините кабель S видео (не прилагается) к гнездам S видео на Вашей видеокамере и Вашем телевизоре или КВМ.

Using the AV cordless IR receiver

Once you connect the AV cordless IR receiver (not supplied) to your TV or VCR, you can easily view the picture on your TV. For details, refer to the operating instructions of the AV cordless IR receiver.

Использование беспроводного ИК аудиовидеоприемника

После подсоединения беспроводного ИК аудиовидеоприемника к Вашему телевизору (не прилагается) Вы можете легко наблюдать изображение на экране Вашего телевизора. Подробные сведения содержатся в инструкции по эксплуатации беспроводного ИК аудиовидеоприемника.



Viewing the recording on TV

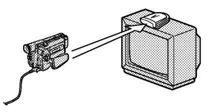
Befor operation
Attach the power supply such as the AC power adaptor to your camcorder, and insert the recorded tape.

(1) After connecting your TV and AV cordless IR receiver, set the POWER switch on the AV cordless IR receiver to ON.
(2) Turn the TV on and set the TV/VCR selector on the TV to VCR.
(3) Set the POWER switch on your camcorder to VTR.
(4) Press S.LASER LINK. The lamp of S.LASER LINK lights up.
(5) Press ► on your camcorder to start playback.
(6) Point the super laser link emitter at the AV cordless IR receiver. Adjust the position of your camcorder and the AV cordless IR receiver to obtain clear playback pictures.

Просмотр записи на экране телевизора

Перед эксплуатацией
Прикрепите источник питания, например, сетевой адаптер переменного тока, к Вашей видеокамере, и вставьте записанную ленту.

(1) После подсоединения к Вашему телевизору беспроводного ИК аудиовидеоприемника установите переключатель POWER на беспроводном ИК аудиовидеоприемнике в положение ON.
(2) Включите телевизор и установите селектор TVC/VCR на телевизоре в положение VCR.
(3) Установите переключатель POWER на Вашей видеокамере в положение VTR.
(4) Нажмите кнопку S.LASER LINK. Высветится лампочка S.LASER LINK.
(5) Нажмите кнопку ► на Вашей видеокамере для начала включения воспроизведения.
(6) Направьте излучатель лазерного суперканала на беспроводный ИК аудиоприемник. Отрегулируйте положение Вашей видеокамеры и беспроводного ИК аудиовидеоприемника для получения четкого воспроизводимого изображения.



To cancel the super laser link function

Press S.LASER LINK. The lamp on the S.LASER LINK button goes out.

If you turn the power off
Super laser link function turns off automatically.

When super laser link is activated (the S.LASER LINK button is lit)
Your camcorder consumes power. Press S.LASER LINK to turn off the super laser link function when it is not needed.

is a trademark of Sony Corporation.

Для отмены функции лазерного суперканала передачи сигналов

Нажмите кнопку S.LASER LINK. Лампочка на кнопке S.LASER LINK погаснет.

Если Вы выключите питание
Лазерный суперканал передачи сигналов выключится автоматически.

При включенном лазерном суперканале передачи сигналов (при этом высвечивается кнопка S.LASER LINK)
Ваша видеокамера потребляет питание. Нажмите кнопку S. LASER LINK для выключения функции лазерного суперканала передачи сигналов, если она не требуется.

является фирменным знаком Sony Corporation.

— Advanced Recording Operations —

Recording a still image on a tape – Tape Photo recording

You can record a still image like a photograph. This mode is useful when you want to record a picture such as a photograph or when you print a picture using a video printer (not supplied).
You can record about 510 images in the SP mode and about 765 images in the LP mode on a tape which can record for 60 minutes in the SP mode. Besides the operation described here, your camcorder can record still images on the "Memory Stick"s (p. 100).

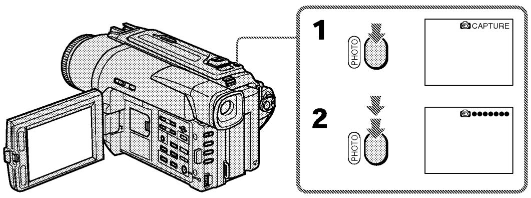
(1) In the standby mode, keep pressing PHOTO lightly until a still image appears. The CAPTURE indicator appears. Recording does not start yet.
To change the still image, release PHOTO, select a still image again, and then press and hold PHOTO lightly.
(2) Press PHOTO deeper.
The still image on the LCD screen or in the viewfinder is recorded for about seven seconds. The sound during those seven seconds is also recorded.
The still image is displayed on the LCD screen or in the viewfinder untill recording is completed.

— Усовершенствованные операции съемки —

Запись неподвижного изображения на ленту – Фотосъемка на ленту

Вы можете записывать неподвижное изображение подобно фотографии. Данный режим полезен, если Вы хотите записывать изображение в виде фотоснимка или же при выполнении отпечатков с помощью видеопринтера (не прилагается).
Вы можете записать около 510 изображений в режиме SP и около 765 изображений в режиме LP ленте, которая позволяет выполнять запись в течение 60 минут в режиме SP. Кроме описанной здесь операции, Ваша видеокамера может выполнить запись неподвижных изображений на "Memory Stick" (стр. 100).

(1) В режиме ожидания держите слегка нажатой кнопку PHOTO до тех пор, пока не появится неподвижное изображение. Появится индикатор CAPTURE. Запись пока еще не началась.
Для изменения неподвижного изображения отпустите кнопку PHOTO, выберите неподвижное изображение снова, а затем нажмите и держите слегка нажатой кнопку PHOTO.
(2) Нажмите кнопку PHOTO сильнее.
Неподвижное изображение в видоискателе или на экране ЖКД будет записываться около семи секунд. В течение этих семи секунд будет записываться и звук.
Неподвижное изображение будет отображаться на экране ЖКД или в видоискателе тех пор, пока запись не будет завершена.



Recording a still image on a tape – Tape Photo recording

Notes
- During the tape photo recording, you cannot change the mode or setting.
- The PHOTO button does not work:
  - while the digital effect function is set or in use.
  - while the fader function is in use.
- When recording a still image, do not shake your camcorder. Mosaic-pattern noise may appear on the image.

To use the tape photo recording function using the Remote Commander
Press PHOTO in the Remote Commander. Your camcorder records an image on the LCD screen or in the viewfinder immediately.

When you use the tape photo recording function during normal CAMERA recording
You cannot check an image on the LCD screen or in the viewfinder by pressing PHOTO lightly. Press PHOTO deeper. The still image is then recorded for about seven seconds, and your camcorder returns to the standby mode. During the seven seconds to record, you cannot shoot another still image.

Запись неподвижного изображения на ленту – Фотосъемка на ленту

Примечания
- Во время фотосъемки на ленту Вы не можете изменять режим или установку.
- Кнопка PHOTO не работает:
  - если установлена или используется функция цифрового эффекта.
  - если используется функция фейдера.
- При записи неподвижного изображения не трясите Вашу видеокамеру. Иначе на изображении могут появиться помехи мозаичного типа.

Для использования функции фотосъемки на ленту с помощью пульта дистанционного управления
Нажмите кнопку PHOTO на пульте дистанционного управления. Ваша видеокамера тотчас же начнет запись изображения на экране ЖКД или в видоискателе.

При использовании функции фотосъемки на ленту во время обычной записи CAMERA
Вы не можете проверить изображение на экране ЖКД или в видоискателе, слегка нажав кнопку PHOTO. Нажмите кнопку PHOTO сильнее. Неподвижное изображение будет записываться около семи секунд, а затем видеокамера вернется в режим ожидания. В течение этих семи секунд записи Вы не можете выполнять съемку другого неподвижного изображения.

Recording a still image on a tape – Tape Photo recording

Self-timer tape photo recording

You can record still images on tapes with the self-timer. This mode is useful when you want to record yourself. You can also use the Remote Commander for this operation.

(1) In the stadby mode, press ⏲ (self-timer). The ⏲ (self-timer) indicator appears on the LCD screen or in the viewfinder.

(2) Press PHOTO firmly.
Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.

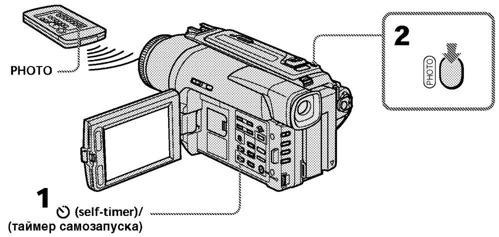
Запись неподвижного изображения на ленту – Фотосъемка на ленту

Съемка на ленту с помощью таймера самозапуска

Вы можете записывать неподвижные изображения на ленты с помощью таймера самозапуска. Этот режим является полезным, если Вы хотите выполнить съемку самого себя. Для этой операции Вы также можете использовать пульт дистанционного управления.

(1) В режиме ожидания нажмите кнопку ⏲ (таймера самозапуска). На экране ЖКД или в видоискателе появится индикатор ⏲ (таймера самозапуска).

(2) Нажмите кнопку PHOTO сильно.
Таймер самозапуска начнет обратный отсчет времени от 10 с зуммерным сигналом. В последние две секунды обратного отсчета времени, частота зуммерного сигнала будет быстрее, а затем начнется запись.



To cancel self-timer recording
Press ⏲ (self-timer) so that the ⏲ indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode. You cannot cancel self-timer recording with the Remote Commander.

Note
The self-timer recording mode is automatically canceled when:
- Self-timer recording is finished.
- The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

Для отмены записи по таймеру самозапуска
Нажмите кнопку ⏲ (таймера самозапуска), так чтобы индикатор ⏲ исчез экрана ЖКД или экрана видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания. С помощью пульта дистанционного управления Вы не можете отменить запись по таймеру самозапуска.

Примечание
Режим записи по таймеру будет автоматически отменен, если:
- Запись по таймеру самозапуска закончится.
- Переключатель POWER установлен в положение OFF (CHARGE), VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

Recording a still image on a tape – Tape Photo recording

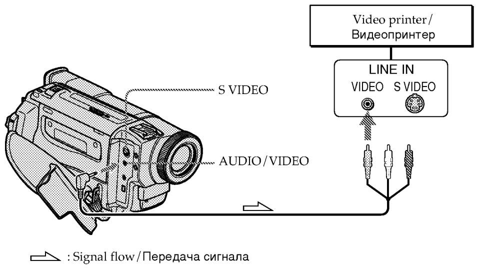
Printing the still image

You can print a still image by using the video printer (not supplied). Connect the video printer using the A/V connecting cable supplied with your camcorder.
Connect the A/V connecting cable to the AUDIO/VIDEO jack and connect the yellow plug of the cable to the video input of the video printer. Refer to the operating instructions of the video printer as well.

Запись неподвижного изображения на ленту – Фотосъемка на ленту

Печатание неподвижного изображения

Вы можете выполнить печатание неподвижного изображения с помощью видеопринтера (не прилагается). Подсоедините видеопринтер с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере. Подсоедините соединительный кабель аудио/видео к выходному гнезду AUDIO/VIDEO и подсоедините желтый штекер кабеля к входному гнезду видеосигнала на видеопринтере. Воспользуйтесь также инструкцией по эксплуатации видеопринтера.



If the video printer is equipped with S video input
Use the S video connecting cable (not supplied). Connect it to the S VIDEO jack and the S video input of the video printer.

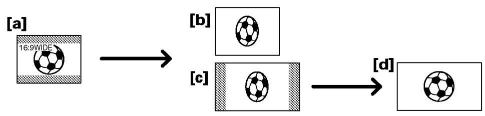
Если в видеопринтере имеется входное гнездо S видео
Используйте соединительный кабель S видео (не прилагается). Подсоедините его к гнезду S VIDEO и ко входному гнезду S видео на видеопринтере.

Using the wide mode

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9 WIDE).
Black bands appear on the LCD screen or in the viewfinder during recording in 16:9 WIDE mode **[a]**. The picture during playing back on a normal TV **[b]** or a wide-screen TV **[c]** are compressed in the widthwise direction. If you set the screen mode of the wide-screen TV to the full mode, you can watch pictures of normal images **[d]**.

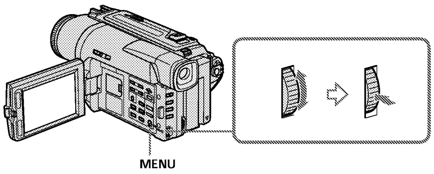
Использование широкоэкранного режима

Вы можете записывать широкоформатное изображение16:9 для просмотра на широкоэкранном телевизоре формата16:9 (16:9 WIDE).
Во время записи в режиме 16:9 WIDE на экране ЖКД или в видоискателе появятся черные полосы **[a]**. Изображение во время воспроизведения в видоискателе, на обычном телевизоре **[b]** или на широкоэкранном телевизоре **[c]** будет сжато по ширине. Если Вы установите режим экрана широкоэкранного телевизора в полноэкранный режим, Вы сможете наблюдать обычные изображения без искажений **[d]**.



In the standby mode, set 16:9WIDE to ON in the menu settings (p. 85).

В режиме ожидания установите команду 16:9WIDE в положение ON в установках меню (стр. 85).



To cancel the wide mode
Set 16:9WIDE to OFF in the menu settings.

In the wide mode, you cannot select the following functions:
- Old movie
- Bounce

During recording
You cannot select or cancel the wide mode. When you cancel the wide mode, set your camcorder to the standby mode and then set 16:9WIDE to OFF in the menu setting.

Для отмены широкоэкранного режима
Установите команду 16:9WIDE в положение OFF в установках меню.

В широкоэкранном режиме Вы не можете выбирать следующие функции:
- Старинное кино
- Перескакивание

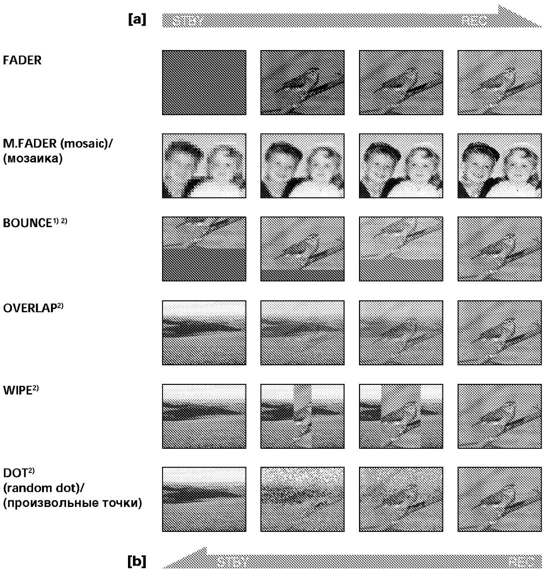
Во время записи
Вы не можете выбрать или отменить широкоэкранный режим. Если Вы отмените широкоэкранный режим, установите Вашу видеокамеру в режим ожидания, а затем установите команду 16:9WIDE в положение OFF.

Using the fader function

You can fade the picture in or out to give your recording a professional appearance.

Использование функции фейдера

Вы можете выполнять плавное введение и выведение изображения, чтобы придать Вашей съемке профессиональный вид.



MONOTONE
When fading in, the picture gradually changes from black-and-white to colour.
When fading out the picture gradually changes from colour to black-and-white.

MONOTONE
При введении изображение будет постепенно изменяться от черно-белого до цветного.
При выведении изображение будет постепенно изменяться от цветного до черно-белого.

---

[1] You can use this function when D ZOOM is set to OFF in the menu settings.
[2] Fade in only

[1] Вы можете использовать эту функцию только если команда D ZOOM установлена в положение OFF в установке меню.
[2] Только введение изображения

Using the fader function

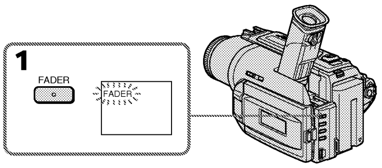
(1) When fading in [a]
In the standby mode, press FADER until the desired fader indicator flashes.
When fading out [b]
In the recording mode, press FADER until the desired fader indicator flashes.
The indicator changes as follows:
FADER → M.FADER → BOUNCE → MONOTONE → OVERLAP → WIPE → DOT
The last selected fader mode is indicated first of all.

(2) Press START/STOP. The fader indicator stops flashing.
After the fade in/out is carried out, your camcorder automatically returns to the normal mode.

Использование функции фейдера

(1) При введении изображения [a]
В режиме ожидания, нажимайте кнопку FADER до тех пор, пока не начнет мигать нужный индикатор фейдера.
При выведении изображения [b]
В режиме записи, нажимайте кнопку FADER до тех пор, пока не начнет мигать нужный индикатор фейдера.
Индикатор будет изменяться следующим образом:
FADER → M.FADER → BOUNCE → MONOTONE → OVERLAP → WIPE → DOT
Последний из выбранных режимов фейдера отображается первым.

(2) Нажмите кнопку START/STOP. Индикатор фейдера перестанет мигать.
После того, как выполнено введение/выведение изображения, Ваша видеокамера автоматически вернется в обычный режим.



To cancel the fader function

Before pressing START/STOP, press FADER until the indicator disappears.

Для отмены функции фейдера

Перед тем, как нажать кнопку START/STOP, нажимайте кнопку FADER до тех пор, пока не исчезнет индикатор.

Using the fader function

Notes

- The overlap, wipe and dot functions work only for tapes recorded in the Digital8 Ð system.
- You cannot use the following functions while using the fader function. Also, you cannot use the fader function while using the following functions:
  - Digital effect
  - Low lux mode of PROGRAM AE (Overlap, wipe or dot function only)
  - Super NightShot
  - Tape photo recording

Before operating the overlap, wipe or dot function
Your camcorder stores the image on the tape. As the image is being stored, the indicator flashes quickly, and the image you are shooting disappears from the LCD or viewfinder screen. Depending on the tape condition, the image may not be recorded clearly.

While using the bounce function, you cannot use the following functions:
- Focus
- Zoom
- Picture effect

Note on the bounce function
The BOUNCE indicator does not appear in the following mode or functions:
- D ZOOM is activated in the menu settings
- Wide mode
- Picture effect
- PROGRAM AE

Использование функции фейдера

Примечания

- Функция наложения изображения работает только для лент, записанных в цифровой системе Digital8 Ð.
- Вы не можете использовать следующие функции во время использования функции фейдера. Также, Вы не можете использовать функцию фейдера во время использования следующих функций:
  - Цифровой эффект
  - Режим низкой освещенности PROGRAM AE (только функция наложения/вытеснения шторкой или точечного изображения)
  - Ночная суперсъемка
  - Фотосъемка

Если Вы не записывали ничего перед включением функции наложения изображения
Ваша видеокамера хранит изображение на ленте. Во время сохранения изображения индикатор мигает быстро, а изображение, которое Вы снимаете, исчезнет с экрана ЖКД или экрана видоискателя. В зависимости от состояния ленты, изображение может быть записано нечетко.

Во время использования функции перескакивания Вы не можете использовать следующие функции:
- Фокусировка
- Трансфокация
- Эффект изображения

Примечание по функции перескакивания
Индикатор BOUNCE не появляется в следующих режимах или при использовании следующих функций:
- Команда D ZOOM приведена в действие в установках меню
- Широкоэкранный режим
- Эффект изображения
- PROGRAM AE

Using special effects – Picture effect

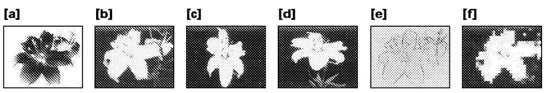
You can digitally process images to obtain special effects like those in films or on the TV.

NEG. ART [a] :	The colour and brightness of the image is reversed.
SEPIA :	The image is sepia.
B&W :	The image is monochrome (black-and-white).
SOLARIZE [b] :	The light intensity is clearer, and the image looks like an illustration.
SLIM [c] :	The image expands vertically.
STRETCH [d] :	The image expands horizontally.
PASTEL [e] :	The contrast of the image is emphasized, and the image looks like an animated cartoon.
MOSAIC [f] :	The image is mosaic.

Использование специальных эффектов – Эффект изображения

Вы можете выполнять обработку изображения цифровым методом для получения специальных эффектов, как в кинофильмах или на экранах телевизоров.

NEG. ART [a] :	Цвет и яркость изображения будут негативными.
SEPIA :	Изображение будет в цвете сепии.
B&W :	Изображение будет монохроматическим (черно-белым).
SOLARIZE [b] :	Яркость света будет усиленной, а изображение будет выглядеть как иллюстрация.
SLIM [c] :	Изображение растянется по вертикали.
STRETCH [d] :	Изображение растянется по горизонтали.
PASTEL [e] :	Подчеркивается контрастность изображения, которому придается мультипликационный вид.
MOSAIC [f] :	Изображение будет мозаическим.

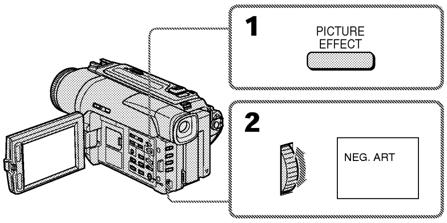


Using special effects - Picture effect

(1) Press PICTURE EFFECT in CAMERA mode. The picture effect indicator appears.
(2) Turn the SEL/PUSH EXEC dial to select the desired picture effect mode.
The indicator changes as follows:
NEG.ART ←→ SEPIA ←→ B&W ←→ SOLARIZE ←→ SLIM ←→ STRETCH ←→ PASTEL ←→ MOSAIC

Использование специальных эффектов – Эффект изображения

(1) Нажмите кнопку PICTURE EFFECT в режиме CAMERA.
Появится индикатор эффекта изображения.
(2) Поверните диск SEL/PUSH EXEC для выбора режима нужного эффекта изображения.
Индикатор будет изменяться следующим образом:
NEG.ART ←→ SEPIA ←→ B&W ←→ SOLARIZE ←→ SLIM ←→ STRETCH ←→ PASTEL ←→ MOSAIC



To turn the picture effect function off

Press PICTURE EFFECT.

While using the picture effect function
You cannot select OLD MOVIE with DIGITAL EFFECT.

When you turn the power off
The picture effect is automatically canceled.

Для выключения функции эффекта изображения

Нажмите кнопку PICTURE EFFECT.

При использовании функции эффекта изображения
Вы не можете выбрать режим OLD MOVIE кино с помощью функции DIGITAL EFFECT.

Если Вы выключите питание
Ваша видеокамера автоматически вернется в обычный режим.

Using special effects - Digital effect

You can add special effects to recorded images using the various digital functions. The sound is recorded normally.

STILL
You can record a still image so that it is superimposed on a moving image.

FLASH (FLASH MOTION)
You can record still images successively at constant intervals.

LUMI. (LUMINANCEKEY)
You can swap a brighter area in a still image with a moving image.

TRAIL
You can record the image so that an incidental image like a trail is left.

SLOW SHTR (SLOW SHUTTER)
You can slow down the shutter speed. The slow shutter mode is good for recording dark images more brightly. However, the image may be less clear.

OLD MOVIE
You can add an old movie type atmosphere to images. Your camcorder automatically sets the wide mode to ON, picture effect to SEPIA, and the appropriate shutter speed.

Использование специальных эффектов – Цифровой эффект

Вы можете добавлять специальные эффекты к записываемому изображению с помощью разных цифровых функций. Записываемый звук будет обычным.

STILL
Вы можете записывать неподвижное изображение, которое можно налагать на подвижное изображение.

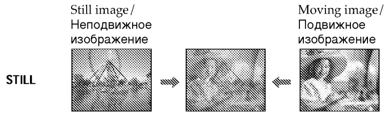
FLASH (FLASH MOTION)
Вы можете записывать неподвижные изображения в последовательности через определенные интервалы.

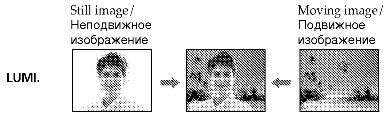
LUMI. (LUMINANCEKEY)
Вы можете изменять яркие места на неподвижном изображении на подвижные изображения.

TRAIL
Вы можете записывать изображение с эффектом запаздывания.

SLOW SHTR (SLOW SHUTTER)
Вы можете замедлить скорость затвора. Режим медленного затвора является подходящим для записи темных изображений в более ярком свете. Однако, изображение может получиться менее четким.

OLD MOVIE
Вы можете привносить атмосферу старинного кино в изображения. Ваша видеокамера будет автоматически устанавливать широкоэкранный режим в положение ON, эффект изображения в положение SEPIA, и выставлять соответствующую скорость затвора.





Using special effects - Digital effect

(1) Press DIGITAL EFFECT in CAMERA mode. The digital effect indicator appears.
(2) Turn the SEL/PUSH EXEC dial to select the desired digital effect mode.
The indicator changes as follows:
STILL ←→ FLASH ←→ LUMI. ←→ TRAIL ←→ SLOW SHTR ←→ OLD MOVIE
(3) Press the SEL/PUSH EXEC dial. The indicator lights up and the bars appear. In the STILL and LUMI. modes, the still image is stored in memory.
(4) Turn the SEL/PUSH EXEC dial to adjust the effect as follows:

STILL – The rate of the still image you want to superimpose on the moving image
FLASH – The interval of flash motion
LUMI. – The colour scheme of the area in the still image which is to be swapped with a moving image
TRAIL – The vanishing time of the incidental image
SLOW SHTR – Shutter speed. The larger the shutter speed number, the slower the shutter speed.
OLD MOVIE – No adjustment necessary

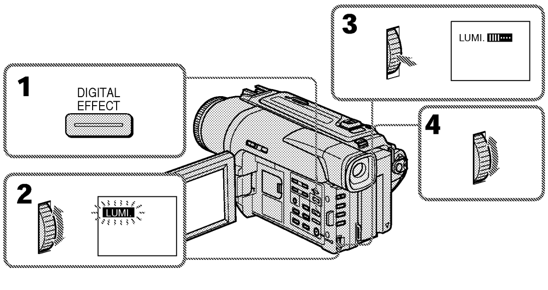
The more bars there are on screen, the stronger the digital effect. The bars appear in the following modes: STILL, FLASH, LUMI. and TRAIL.

Использование специальных эффектов – Цифровой эффект

(1) Нажмите кнопку DIGITAL EFFECT в режиме CAMERA.
Появится индикатор цифрового эффекта.
(2) Поверните диск SEL/PUSH EXEC для выбора режима нужного цифрового эффекта.
Индикатор будет изменяться следующим образом:
STILL ←→ FLASH ←→ LUMI. ←→ TRAIL ←→ SLOW SHTR ←→ OLD MOVIE
(3) Нажмите диск SEL/PUSH EXEC.
Высветится индикатор и появятся полосы. В режимах STILL и LUMI. неподвижное изображение будет сохранено в памяти.
(4) Поверните диск SEL/PUSH EXEC для регулировки эффекта следующим образом:

STILL – Интенсивность неподвижного изображения, которое Вы хотите наложить на подвижное изображение
FLASH – Интервал прерывистого движения
LUMI. – Цветовая гамма участка на неподвижном изображении, который будет заменен на подвижное изображение
TRAIL – Время исчезания побочного изображения
SLOW SHTR – Скорость затвора. Чем больше величина скорости затвора, тем медленнее скорость затвора
OLD MOVIE – Не требуется никаких регулировок

Чем больше полос на экране, тем сильнее цифровой эффект. Полосы появляются в следующих режимах: STILL, FLASH, LUMI. и TRAIL.



Using special effects - Digital effect

To cancel the digital effect

Press DIGITAL EFFECT.

Notes
- The following functions do not work during digital effect:
  - Fader
  - Low lux mode of PROGRAM AE
  - Tape photo recording
  - Super NightShot
- The following functions do not work in the slow shutter mode:
  - Exposure
  - PROGRAM AE
- The following functions do not work in the old movie mode:
  - Exposure
  - Wide mode
  - Picture effect
  - PROGRAM AE

When you turn the power off
The digital effect is automatically canceled.

When recording in the slow shutter mode
Auto focus may not be effective. Focus manually using a tripod.

Shutter speed

Shutter speed number	Shutter speed
SLOW SHTR 1	1/25
SLOW SHTR 2	1/12
SLOW SHTR 3	1/6
SLOW SHTR 4	1/3

Использование специальных эффектов – Цифровой эффект

Для отмены цифрового эффекта

Нажмите кнопку DIGITAL EFFECT.

Примечания
- Следующие функции не работают при использовании цифрового эффекта:
  - Фейдер
  - Режим низкой освещенности PROGRAM AE
  - Фотосъемка на ленту
  - Ночная суперсъемка
- Следующие функции не работают в режиме медленного затвора:
  - Экспозиция
  - PROGRAM AE
- Следующие функции не работают в режиме старинного кино:
  - Экспозиция
  - Широкоэкранный режим
  - Эффект изображения
  - PROGRAM AE

При выключении питания
Цифровой эффект будет автоматически отменен.

При записи в режиме медленного затвора
Автоматическая фокусировка может быть не эффективной. Выполните фокусировку вручную, используя треногу.

Скорость затвора

Величина скорости затвора	Скорость затвора
SLOW SHTR1	1/25
SLOW SHTR2	1/12
SLOW SHTR3	1/6
SLOW SHTR4	1/3

Using the PROGRAM AE function

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting requirements.

Spotlight mode
This mode prevents people's faces, for example, from appearing excessively white when shooting subjects lit by strong light in the theatre.

Soft portrait mode
This mode brings out the subject while creating a soft background for subjects such as people or flowers.

Sports lesson mode
This mode minimizes shake on fast-moving subjects such as in tennis or golf.

Beach & ski mode
This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

Sunset & moon mode
This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

Landscape mode
This mode is for when you are recording distant subjects such as mountains and prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.

Low lux mode
This mode makes subjects brighter in insufficient light.

Использование функции PROGRAM AE

Вы можете выбрать режим PROGRAM AE (автоматическая съемка) в соответствии со специфическими требованиями к съемке.

Режим прожекторного освещения
Данный режим предотвращает, к примеру, лица людей от появления в чрезмерно белом свете при выполнении съемки людей, освещенных сильным светом на свадебных церемониях или в театре.

Мягкий портретный режим
Этот режим позволяет выделить объект на фоне мягкого фона, и подходит для съемки, например, людей или цветов.

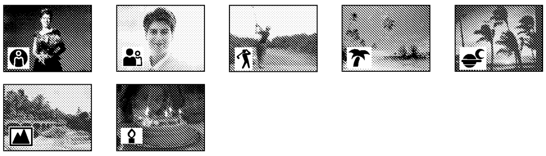
Режим спортивных состязаний
Этот режим позволяет минимизировать дрожание при съемке быстро движущихся предметов, например, при игре в теннис или гольф.

Пляжный и лыжный режим
Этот режим предотвращает появление темных лиц людей в зоне сильного света или отраженного света, например, на пляже в разгар лета или на снежном склоне.

Режим захода солнца и луны
Этот режим позволяет в точности отражать обстановку при съемке заходов солнца, общих ночных видов, фейерверков и неоновых реклам.

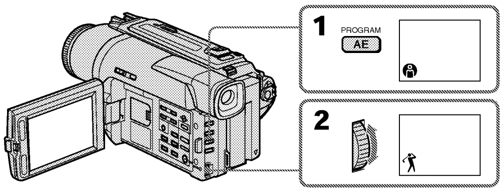
Ландшафтный режим
Этот режим позволяет выполнять съемку отдаленных объектов, таких как горы, например, и предотвращает фокусировку видеокамеры на стекло или металлическую решетку на окнах, когда Вы выполняете запись объектов позади стекла или решетки.

Режим низкой освещенности
Этот режим делает объекты ярче при недостаточном освещении.



Using the PROGRAM AE function

(1) Press PROGRAM AE in CAMERA or MEMORY mode. The PROGRAM AE indicator appears.
(2) Turn the SEL/PUSH EXEC dial to select the desired mode.
The indicator changes as follows:
👤 ↔ 👥 ↔ 🏌 ↔ 🌴 ↔ 🌅 ↔ ▲ ↔ 🕯



To turn the PROGRAM AE function off
Press PROGRAM AE.

Notes
- In the spotlight, sports lesson and beach & ski modes, you cannot take close-ups. This is because your camcorder is set to focus only on subjects in the middle to far distance.
- In the sunset & moon and landscape modes, your camcorder is set to focus only on distant subjects.
- The following functions do not work in the PROGRAM AE mode:
  - Slow shutter
  - Old movie
  - Bounce
- The following functions do not work in the low lux mode:
  - Digital effect
  - Overlap
  - Wipe
  - Dot
  - Exposure
- While setting the NIGHTSHOT to ON, the PROGRAM AE function does not work. (The indicator flashes.)
- While shooting in MEMORY mode, the low lux mode does not work. (The indicator flashes.)

If you are recording under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp
Flickering or changes in colour may occur in the following modes. If this happens, turn the PROGRAM AE function off.
- Soft portrait mode
- Sports lesson mode

Использование функции PROGRAM AE

(1) Нажмите кнопку PROGRAM AE в режиме CAMERA или MEMORY. Появится индикатор PROGRAM AE.
(2) Поверните диск SEL/PUSH EXEC для выбора нужного режима.
Индикатор будет изменяться следующим образом:
👤 ↔ 👥 ↔ 🏌 ↔ 🌴 ↔ 🌅 ↔ ▲ ↔ 🕯

Для выключения функции PROGRAM AE
Нажмите кнопку PROGRAM AE.

Примечания
- В режимах прожекторного освещения, спортивных состязаний, а также в пляжном и лыжном режиме Вы можете выполнять съемку крупным планом. Это объясняется тем, что Ваша видеокамера настроена для фокусировки только на объекты, находящиеся на среднем и дальнем расстояниях.
- В режиме захода солнца и луны, а также в ландшафтном режиме Ваша видеокамера настроена на фокусировку только на дальние объекты.
- Следующие функции не работают в режиме PROGRAM AE:
  - Медленный затвор
  - Старинное кино
  - Перескакивание
- Следующие функции не работают в режиме низкой освещенности:
  - Цифровой эффект
  - Наложение изображения
  - Ночная съемка
  - Точечное изображение
  - Экспозиция
- Во время установки команды NIGHTSHOT в положение ON, функция PROGRAM AE не работает. (Индикатор будет мигать.)
- Во время съемки в режиме MEMORY. режим низкой освещенности не работает. (Индикатор будет мигать.)

Если Вы выполняете запись при использовании газоразрядной лампы, натриевой лампы или ртутной лампы
В следующих режимах может возникнуть мерцание или неустойчивые процессы. Если это произойдет, выключите функцию PROGRAM AE.
- Мягкий портретный режим
- Режим спортивных состязаний

Adjusting the exposure manually

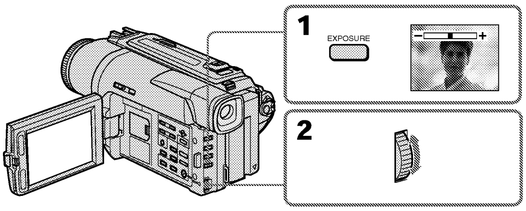
You can manually adjust and set the exposure. Adjust the exposure manually in the following cases:
- The subject is backlit
- Bright subject and dark background
- To record dark pictures (e.g. night scenes) faithfully

(1) Press EXPOSURE in CAMERA or MEMORY mode.
The exposure indicator appears on the LCD screen or in the viewfinder.
(2) Turn the SEL/PUSH EXEC dial to adjust the brightness.

Регулировка экспозиции вручную

Вы можете отрегулировать и установить экспозицию вручную.
Отрегулируйте экспозицию вручную в следующих случаях:
- Объект на фоне задней подсветки
- Яркий объект на темном фоне
- Для записи темных изображений (например, ночных сцен) с большой достоверностью

(1) Нажмите кнопку EXPOSURE в режиме CAMERA или MEMORY.
На экране ЖКД или в видоискателе появится индикатор экспозиции.
(2) Поверните диск SEL/PUSH EXEC для регулировки яркости.



To return to the automatic exposure mode
Press EXPOSURE.

Notes
- When you adjust the exposure manually, the following function and modes do not work in CAMERA mode:
  - Backlight
  - Old movie
  - Slow shutter
- When you adjust the exposure manually, the backlight function does not work in MEMORY mode.

Your camcorder automatically returns to the automatic mode:
- if you change the PROGRAM AE mode
- if you slide NIGHTSHOT to ON

Для возврата в режим автоматической экспозиции
Нажмите кнопку EXPOSURE.

Примечания
- При выполнении регулировки экспозиции вручную, следующие функции и режимы не работают в режиме CAMERA.
- Задняя подсветка
- Старинное кино
- Медленный затвор
- При выполнении регулировки экспозиции вручную, функция задней подсветки не работает в режиме MEMORY.

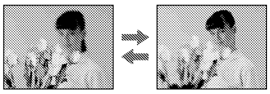
Ваша видеокамера автоматически вернется в режим автоматической экспозиции:
- если Вы измените режим PROGRAM AE
- если Вы передвинете переключатель NIGHTSHOT в положение ON

Focusing manually

You can gain better results by manually adjusting the focus in the following cases:
- The autofocus mode is not effective when shooting:
  - subjects through glass coated with water droplets.
  - horizontal stripes.
  - subjects with little contrast with backgrounds such as walls and sky.
- When you want to change the focus from a subject in the foreground to a subject in the background.
- Shooting a stationary subject when using a tripod.

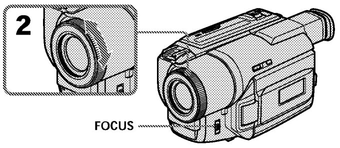
Фокусировка вручную

Вы можете получить лучшие результаты путем регулировки вручную в следующих случаях:
- Режим автоматической фокусировки является неэффективным при выполнении съемки:
  - объектов через покрытое каплями стекло.
  - горизонтальных полос.
  - объектов с малой контрастностью на таком фоне, как стена или небо.
- Если Вы хотите выполнить изменение фокусировки с объекта на переднем плане на объект на заднем плане.
- При выполнении съемки стационарных объектов с использованием треноги.



(1) Set FOCUS to MANUAL in CAMERA or MEMORY mode. The Ⓕ indicator appears on the LCD screen or in the viewfinder.
(2) Turn the focus ring to sharpen focus.

(1) Установите переключатель FOCUS в положение MANUAL в режиме CAMERA или MEMORY. На экране ЖКД или в видоискателе появится индикатор Ⓕ.
(2) Поверните кольцо фокусировки для получения четкой фокусировки.



To return to the autofocus mode
Set FOCUS to AUTO.

To record distant subjects
When you press FOCUS down to INFINITY. The lens focuses on infinity and ▲ indicator appears. When you release FOCUS, your camcorder returns to the manual focus mode. Use this mode when your camcorder focuses on near objects even though you are trying to shoot a distant object.

Для возвращения в режим фокусировки
Установите переключатель FOCUS в положение AUTO.

Для съемки удаленных объектов
Если Вы нажмете вниз кнопку FOCUS в положение INFINITY. Объектив выполнит фокусировку на бесконечность, и появится индикатор ▲. Если Вы отпустите кнопку FOCUS, Ваша видеокамера вернется в режим ручной фокусировки. Используйте этот режим, если Ваша видеокамера выполняет фокусировку на ближние объекты, даже если Вы пытаетесь выполнить съемку отдаленного объекта.

Focusing manually

To focus precisely
Adjust the zoom by first focusing at the "T" (telephoto) position and then shooting at the "W" (wide-angle) position. This makes focusing easier.

When you shoot close to the subject
Focus at the end of the "W" (wide-angle) position.

changes to the following indicators:
▲ when recording a distant subject.
● when the subject is too close to focus on.

Фокусировка вручную

Для точной фокусировки
Отрегулируйте объектив, сначала выполнив фокусировку в положении "T" (телефото), а затем выполнив съемку в положении "W" (широкого угла охвата). Это упростит фокусировку.

При выполнении съемки вблизи объекта
Выполните фокусировку в конце положения "W" (широкого угла охвата).

Индикация изменится на следующие индикаторы:
▲ при записи удаленного объекта.
● если объект находится слишком близко, чтобы выполнить фокусировку на него.

Superimposing a title

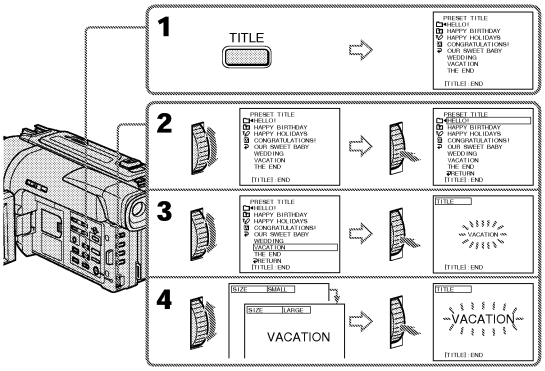
You can select one of eight preset titles and two custom titles (p. 61). You can also select the language, colour, size and position of titles.

(1) Press TITLE to display the title menu in the standby mode.
(2) Turn the SEL/PUSH EXEC dial to select ☐, then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select the desired title, then press the dial. The titles are displayed in the language you selected.
(4) Change the colour, size, or position, if necessary.
  ① Turn the SEL/PUSH EXEC dial to select the colour, size, or position, then press the dial. The item appears.
  ② Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial.
  ③ Repeat steps ① and ② until the title is laid out as desired.
(5) Press the SEL/PUSH EXEC dial again to complete the setting.
(6) Press START/STOP to start recording.
(7) When you want to stop recording the title, press TITLE.

Наложение титра

Вы можете выбрать один из восьми предварительно установленных титров и двух собственных титров (стр. 61). Вы можете также выбирать язык, цвет, размер и положение титров.

(1) Нажмите кнопку TITLE для отображения меню титров в режиме ожидания.
(2) Поверните диск SEL/PUSH EXEC для выбора установки ☐, а затем нажмите диск.
(3) Поверните диск SEL/PUSH EXEC для выбора нужного титра, а затем нажмите диск. Титры будут отображаться на выбранном Вами языке.
(4) Измените цвет, размер или положение титра, если нужно.
  ① Поверните диск SEL/PUSH EXEC для выбора цвета, размера или положения титра, а затем нажмите диск.
  ② Поверните диск SEL/PUSH EXEC для выбора нужного пункта, а затем нажмите диск.
  ③ Повторяйте пункты ① и ② до тех пор, пока титр не будет расположен так, как нужно.
(5) Нажмите диск SEL/PUSH EXEC для завершения установки.
(6) Нажмите кнопку START/STOP для начала записи.
(7) Если Вы захотите остановить запись титра, нажмите кнопку TITLE.



Superimposing a title

To superimpose the title while you are recording
Press TITLE while you are recording, and carry out steps 2 to 5. When you press the SEL/PUSH EXEC dial at step 5, the title is recorded.

To select the language of a preset title
If you want to change the language, select 🅰 before step 2. Then select the desired language and return to step 2.

If you display the menu while superimposing a title
The title is not recorded while the menu is displayed.

To use the custom title
If you want to use the custom title, select ⊡ in step 2.
If you have not made any custom title, "– – – – ..." appears on the display.

Title setting
- The title colour changes as follows :
  WHITE ←→ YELLOW ←→ VIOLET ←→ RED ←→ CYAN ←→ GREEN ←→ BLUE
- The title size changes as follows :
  SMALL ←→ LARGE
  You cannot input more than 12 characters in LARGE size.
- The title position changes as follows :
  1←→ 2←→ 3←→ 4←→ 5←→ 6←→ 7←→ 8←→ 9
  The larger the position number, the lower the title is positioned.
  When you select the title size LARGE, you cannot choose position 9.

When you are selecting and setting the title
You cannot record the title displayed on the screen.

When you superimpose a title while you are recording
The beep does not sound.

While you are playing back
You can superimpose a title. However, the title is not recorded on tape.
You can record a title when you dub the tape connecting your camcorder to the VCR with the A/V connecting cable. If you use the i.LINK cable instead of the A/V connecting cable, you cannot record the title.

Наложение титра

Для наложения титра во время записи
Нажмите кнопку TITLE во время записи и выполните действия пунктов 2-5. Если Вы нажмете диск SEL/PUSH EXEC в пункте 5, титр будет записан.

Для выбора языка предварительно установленного титра
Если Вы хотите изменить язык, выберите индикацию 🅰 перед пунктом 2. Затем выберите нужныи язык и вернитесь к пункту 2.

В случае отображения меню во время наложения титра
Титр не будет записываться во время отображения меню.

Для использования собственного титра
Если Вы хотите использовать собственный титр, выберите установку ⊡ в пункте 2.
Если Вы не сделали никакого собственного титра, на дисплее появится индикация "– – – – ...".

Установка титра
- Цвет титра изменяется следующим образом:
  WHITE (белый) ←→ YELLOW (желтый) ←→ VIOLET (фиолетовый) ←→ RED (красный) ←→ CYAN (голубой) ←→ GREEN (зеленый) ←→ BLUE (синий)
- Размер титра изменяется следующим образом:
  SMALL (маленький) ←→ LARGE (большой)
  Вы не можете ввести более 12 символов для размера титра LARGE.
- Позиция титра изменяется следующим образом:
  1←→ 2←→ 3←→ 4←→ 5←→ 6←→ 7←→ 8←→ 9
  Чем выше номер позиции титра, тем ниже расположен титр.
  Если Вы выберите размер титра LARGE, Вы не сможете выбрать положение 9.

При выборе и установке титра
Вы не можете записать титр, отображаемый на экране.

При наложении титра во время записи
Зуммерный сигнал не будет звучать.

Во время воспроизведения
Вы можете наложить титр. Однако титр не будет записан на ленту.
Вы можете записать титр при перезаписи ленты, подсоединив Вашу видеокамеру к КВМ с помощью соединительного кабеля аудио/видео. Если Вы используете кабель i.LINK вместо соединительного кабеля аудио/видео, Вы не можете записать титры.

Making your own titles

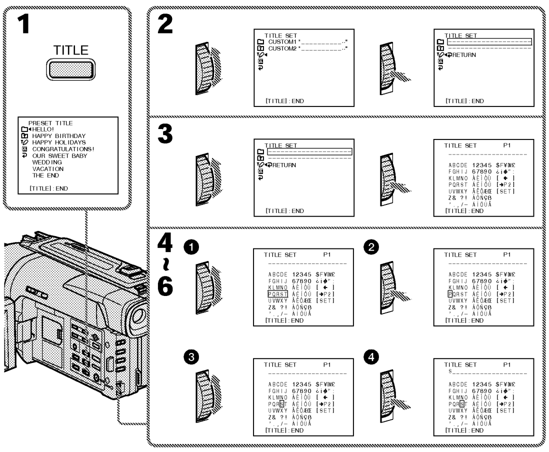
You can make up to two titles and store them in your camcorder. Each title can have up to 20 characters.

(1) Press TITLE in the standby, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode.
(2) Turn the SEL/PUSH EXEC dial to select T⁄, then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select the first line (CUSTOM1) or second line (CUSTOM2), then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select the column of the desired character, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select the desired character, then press the dial.
(6) Repeat steps 4 and 5 until you have selected all characters and completed the title.
(7) To finish making your own titles, turn the SEL/PUSH EXEC dial to select [SET], then press the dial. The title is stored in memory.
(8) Press TITLE to make the title menu disappear.

Создание Ваших собственных титров

Вы можете составить до двух титров и сохранить их в памяти Вашей видеокамеры. Каждый титр может содержать до 20 символов.

(1) Нажмите кнопку TITLE в режиме ожидания, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E)
(2) Поверните диск SEL/PUSH EXEC для выбора установки T⁄, а затем нажмите диск.
(3) Поверните диск SEL/PUSH EXEC для выбора первой строки (CUSTOM1) или второй строки (CUSTOM2), а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора колонки с нужным символом, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора нужного символа, а затем нажмите диск.
(6) Повторяйте пункты 4 и 5 до тех пор, пока Вы не выберите все символы и полностью не составите титр.
(7) Для завершения составления своих собственных титров поверните диск SEL/PUSH EXEC для выбора клманды [SET], а затем нажмите диск. Титр будет сохранен в памяти.
(8) Нажмите кнопку TITLE, чтобы исчезло меню титров.



Making your own titles

To change a title you have stored

In step 3, select CUSTOM1 or CUSTOM2, depending on which title you want to change, then press the SEL/PUSH EXEC dial. Turn the SEL/PUSH EXEC dial to select [←], then press the dial to delete the title. The last character is erased. Enter the new title as desired.

If you take 3 minutes or longer to enter characters in the standby mode while a cassette is in your camcorder

The power automatically goes off. The characters you have entered remain stored in memory. Set the POWER switch to OFF (CHARGE) once, and turn it to CAMERA again, then proceed from step 1.
We recommend setting the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) or removing the cassette so that your camcorder does not automatically turn off while you are entering title characters.

If you select [➔P2]

The menu for selecting alphabet and Russian characters appear. Select [➔P1] to return to the previous screen.

To erase a character

Select [←]. The last character is erased.

To enter a space

Select [Z& ?!], then select the blank part.

Создание Ваших собственных титров

Для изменения сохраненного в памяти титра

В пункте 3 выберите установку CUSTOM1 или CUSTOM2, в зависимости от титра, который Вы хотите изменить, а затем нажмите диск SEL/PUSH EXEC. Поверните диск SEL/PUSH EXEC для выбора установки [←], а затем нажмите диск для удаления титра. Последний символ будет стерт. Введите новый нужный титр.

Если Вы вводите символы 3 минуты или более в режиме ожидания в то время, когда кассета находится в Вашей видеокамере

Питание выключится автоматически. Символы, которые Вы ввели, сохранятся в памяти видеокамеры. Установите сначала переключатель POWER в положение OFF (CHARGE), а затем снова в положение CAMERA, а затем начните с пункта 1.
Рекомендуется установить переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E) или вынуть кассету, чтобы Ваша видеокамера автоматически не выключалась во время ввода символов титра.

Если Вы выбрали установку [➔P2]

Появится меню для выбора алфавита и русских символов. Для возврата к прежнему экрану выберите установку [➔P1].

Для удаления титра

Выберите установку [←]. Последний символ будет стерт.

Для ввода интервала

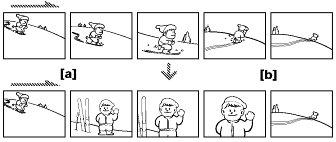
Выберите знак [Z& ?!], а затем выберите пустую ячейку.

Inserting a scene

You can insert a scene in the middle of a recorded tape by setting the start and end points. The previously recorded frames between these start and end points will be erased. Use the Remote Commander for this operation.

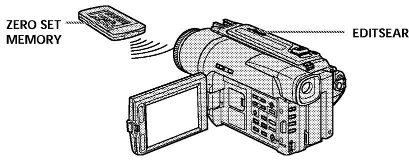
Вставка эпизода

Вы можете вставить эпизод в середине записанной ленты путем установки точек начала и окончания. Предыдущие записанные кадры между этими точками начала и окончания будут стерты. Вы можете выполнить это, используя пульт дистанционного управления.



(1) While your camcorder is in the standby mode, keep pressing EDITSEARCH, and release the button at the insert end point **[b]**.
(2) Press ZERO SET MEMORY. The ZERO SET MEMORY indicator flashes and the counter resets to zero.
(3) Keep pressing the – ⊜ side of EDITSEARCH and release the button at the insert start point **[a]**.
(4) Press START/STOP to start recording. The scene is inserted. Recording stops automatically near the counter zero point. Your camcorder returns to the standby mode.

(1) В режиме ожидания видеокамеры, держите нажатой кнопку EDITSEARH и отпустите кнопку в точке окончания эпизода **[b]**.
(2) Нажмите кнопку ZERO SET MEMORY. Начнет мигать индикатор ZERO SET MEMORY, а счетчик ленты будет установлен в нулевое положение.
(3) Держите нажатой сторону – ⊜ кнопки EDITSEARH и отпустите кнопку в точке начала эпизода **[a]**.
(4) Нажмите кнопку START/STOP для начала записи. Эпизод вставлен. Запись остановится автоматически в нулевой точке счетчика. Ваша видеокамера вернется в режим ожидания.



Notes

- The zero set memory function works only for tapes recorded in the Digital8 Ð system.
- The picture and the sound may be distorted at the end of the inserted section when it is played back.

If a tape has a blank portion in the recorded portions

The zero set memory function may not work correctly.

Примечания

- Функция памяти нуля не работает для лент, записанных в цифровой системе Digital8 Ð.
- Изображение и звук могут быть искажены в конце вставленного эпизода при воспроизведении.

Если на ленте имеется незаписанный участок

Функция памяти нуля может не работать надлежащим образом.

— Advanced Playback Operations —

Playing back a tape with picture effects

During playback, you can process a scene using the picture effect functions: NEG.ART, SEPIA, B&W and SOLARIZE.

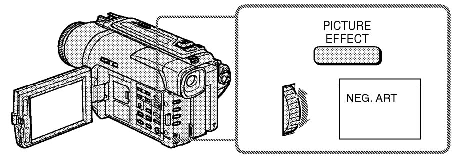
During playback, press PICTURE EFFECT and turn the SEL/PUSH EXEC dial until the desired picture effect indicator (NEG.ART, SEPIA, B&W or SOLARIZE) appears.
For details of each picture effect function, see page 49.

— Усовершенствованные операции воспроизведения —

Воспроизведение ленты с эффектами изображения

Во время воспроизведения, Вы можете видоизменять изображение с помощью функций: NEG.ART, SEPIA, B&W и SOLARIZE.

Во время воспроизведения, нажмите кнопку PICTURE EFFECT и поворачивайте диск SEL/PUSH EXEC до тех пор, пока не начнет мигать индикатор нужного цифрового (NEG.ART, SEPIA, B&W и SOLARIZE).
Подробные сведения по каждой функции цифровых эффектов приведены на стр. 49.



To cancel the picture effect function

Press PICTURE EFFECT.

Notes

- The picture effect function works only for tapes recorded in the Digital8 Ð system.
- You cannot process externally input scenes using the picture effect function.
- You cannot record pictures that you have processed using the picture effect function with this camcorder. To record pictures that you have processed using the picture effect function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by the picture effect function

Pictures processed by the picture effect function are not output through the i DV IN/OUT or i DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back

The picture effect function is automatically canceled.

Для отмены функции цифровых эффектов

Нажмите кнопку PICTURE EFFECT.

Примечания

- Функция эффектов изображения работает только для лент, записанных в цифровой системе Digital8 Ð.
- Вы не можете видоизменять изображения от КВМ или телевизора с помощью функции эффектов изображения.
- Вы не можете записывать обработанные изображения с помощью функции эффектов изображения на данной видеокамере. Для записи изображения с использованием эффектов изображения, запишите изображения на КВМ, используя Вашу видеокамеру в качестве плейера.

Изображения, обработанные с помощью функции эффектов изображения

Изображения, обработанные с помощью функции эффектов изображения, не передаются через гнездо i DV IN/OUT или i DV OUT.

Если Вы установили переключатель POWER в положение OFF (CHARGE) или остановили воспроизведение

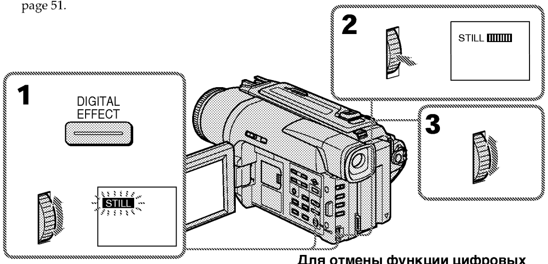
Функция эффектов изображения будет автоматически отменена.

Playing back a tape with digital effects

During playback, you can process a scene using the digital effect functions: STILL, FLASH, LUMI. and TRAIL.
(1) During playback, press DIGITAL EFFECT and turn the SEL/PUSH EXEC dial until the desired digital effect indicator (STILL, FLASH, LUMI. or TRAIL) flashes.
(2) Press the SEL/PUSH EXEC dial.
The digital effect indicator lights up and the bars appear. In the STILL or LUMI. mode, the image where you press the SEL/PUSH EXEC dial is stored in memory as a still image.
(3) Turn the SEL/PUSH EXEC dial to adjust the effect.
For details of each digital effect function, see page 51.

Воспроизведение ленты с цифровыми эффектами

Во время воспроизведения, Вы можете видоизменять изображение с помощью функций: STILL, FLASH, LUMI. и TRAIL.
(1) Во время воспроизведения, нажмите кнопку DIGITAL EFFECT и поворачивайте диск SEL/PUSH EXEC до тех пор, пока не начнет мигать индикатор нужного цифрового эффекта (STILL, FLASH, LUMI. или TRAIL).
(2) Нажмите диск SEL/PUSH EXEC.
Высветится индикатор цифрового эффекта и появятся полосы. В режиме STILL или LUMI. изображение, на котором Вы нажмете диск SEL/PUSH EXEC, будет занесено в память как неподвижное изображение.
(3) Поверните диск SEL/PUSH EXEC для регулировки эффекта изображения.
Подробные сведения по каждой функции цифровых эффектов приведены на стр. 51.



To cancel the digital effect function

Press DIGITAL EFFECT.

Notes

- The digital effect function works only for tapes recorded in the Digital8 Ð system.
- You cannot process externally input scenes using the digital effect function.
- You cannot record images that you have processed using the digital effect function with this camcorder. To record images that you have processed using the digital effect function, record the images on the VCR using your camcorder as a player.

Pictures processed by the digital effect function

Pictures processed by the digital effect function are not output through the i DV IN/OUT or i DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back

The digital effect function is automatically canceled.

Для отмены функции цифровых эффектов

Нажмите кнопку DIGITAL EFFECT.

Примечания

- Функция цифровых эффектов работает только для лент, записанных в цифровой системе Digital8 Ð.
- Вы не можете видоизменять изображения от КВМ или телевизора с помощью функции цифровых эффектов.
- Вы не можете записывать обработанные изображения с помощью функции цифровых эффектов на данной видеокамере. Для записи изображения с цифровыми эффектами, запишите изображения на КВМ, используя Вашу видеокамеру в качестве плейера.

Изображения, обработанные с помощью функции цифровых эффектов

Изображения, обработанные с помощью функции цифровых эффектов, не передаются через гнездо i DV IN/OUT или i DV OUT.

Если Вы установили переключатель POWER в положение OFF (CHARGE) или остановили воспроизведение

Функция цифровых эффектов будет автоматически отменена.

Enlarging recorded images – PB ZOOM

You can enlarge moving and still images recorded on tapes.
Besides the operation described here, your camcorder can enlarge still images recorded on "Memory Stick"s.

(1) Press PB ZOOM on your camcorder while you are playing back. The image is enlarged, and ↑ ↓ appears on the LCD screen or in the viewfinder.

(2) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
↑ : The image moves downwards.
↓ : The image moves upwards.
← → becomes available.

(3) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
← : The image moves rightward. (Turn the dial downwards.)
→ : The image moves leftward. (Turn the dial upwards.)

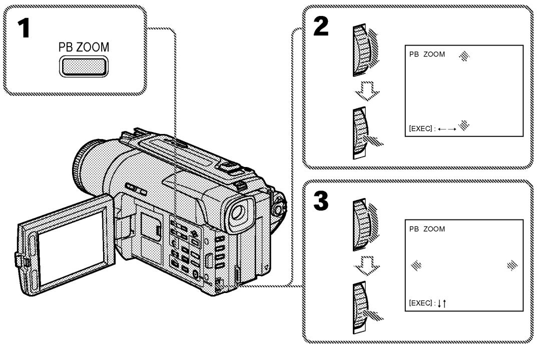
Увеличение записанных изображений – PB ZOOM

Вы можете увеличивать движущиеся и неподвижные изображения, записанные на ленты.
Помимо операций, описанных в данном руководстве, Ваша видеокамера позволяет увеличивать неподвижные изображения, записанные на "Memory Stick".

(1) Нажмите кнопку PB ZOOM на Вашей видеокамере во время воспроизведения. Изображение увеличится, а на экране ЖКД или в видоискателе появится индикация ↑ ↓.

(2) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
↑ : Изображения перемещается вниз.
↓ : Изображение перемещается вверх.
← → появится на дисплее.

(3) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
← : Изображение перемещается вправо (поверните диск вниз.)
→ : Изображение перемещается влево (поверните диск вверх.)



To cancel PB ZOOM function
Press PB ZOOM.

Для отмены функции PB ZOOM
Нажмите кнопку PB ZOOM.

Enlarging recorded images – PB ZOOM

Notes
- PB ZOOM works only for tapes recorded in the Digital8 Ɖ system.
- You cannot process externally input scenes using PB ZOOM function.
- You cannot record pictures that you have processed using PB ZOOM function with this camcorder. To record pictures that you have processed using PB ZOOM function, record the pictures on the VCR using your camcorder as a player.

Pictures processed by PB ZOOM function
Pictures processed by PB ZOOM function are not output through the i DV IN/OUT or i DV OUT jack.

When you set the POWER switch to OFF (CHARGE) or stop playing back
PB ZOOM function is automatically canceled.

Увеличение записанных изображений – PB ZOOM

Примечания
- Функция PB ZOOM работает только для лент, записанных в системе Digital8 Ɖ.
- Вы не можете обрабатывать введенные с внешней аппаратуры изображения с помощью функции PB ZOOM.
- Вы не можете записывать изображения, обработанные с помощью функции PB ZOOM, на данной видеокамере. Для записи изображений, обработанных с помощью функции PB ZOOM, запишите изображения на КВМ с помощью видеокамеры, используя ее в качестве плейера.

Изображения, обработанные с помощью функции PB ZOOM
Изображения, обработанные с помощью функции PB ZOOM, не передаются через гнездо i DV IN/OUT или i DV OUT.

Если Вы установите переключатель POWER в положение OFF (CHARGE) или остановите воспроизведение
Функция PB ZOOM будет автоматически отмемена.

Quickly locating a scene using the zero set memory function

Your camcorder goes forward or backward to automatically stop at a desired scene having a counter value of "0:00:00".
Use the Remote Commander for this operation.
Use this function, for example, to view a desired scene later on during playback.

(1) In the playback mode, press DISPLAY.

(2) Press ZERO SET MEMORY at the point you want to locate later. The counter shows "0:00:00" and the ZERO SET MEMORY indicator flashes.

(3) Press ■ when you want to stop playback.

(4) Press ◀◀ to rewind the tape to the counter's zero point. The tape stops automatically when the counter reaches approximately zero. The ZERO SET MEMORY indicator disappears and the time code appears.

(5) Press ▶. Playback starts from the counter's zero point.

Быстрое отыскание эпизода с помощью функции памяти нулевой отметки

Ваша видеокамера выполняет продвижение вперед или назад с автоматической остановкой в нужном эпизоде, где показание счетчика равно "0:00:00".
Вы можете выполнять это с помощью пульта дистанционного управления.
Используйте эту функцию, например, для просмотра нужного эпизода позже во время воспроизведения.

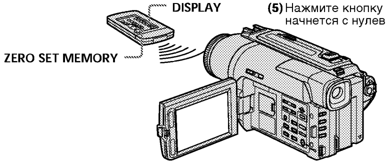
(1) В режиме воспроизведения нажмите кнопку DISPLAY.

(2) Нажмите кнопку ZERO SET MEMORY в месте, которое Вы захотите найти позже. Показание счетчика станет равным "0:00:00", и начнет мигать индикатор ZERO SET MEMORY.

(3) Нажмите кнопку ■, если Вы захотите остановить воспроизведение.

(4) Нажмите кнопку ◀◀ для ускоренной перемотки ленты назад к нулевой точке счетчика. Лента остановится автоматически, если счетчик достигнет нулевой отметки. Индикатор ZERO SET MEMORY исчезнет, и появится код времени.

(5) Нажмите кнопку ▶. Воспроизведение начнется с нулевой отметки счетчика.



Notes
- The zero set memory function works only for tapes recorded in the Digital8 Ɖ system.
- When you press ZERO SET MEMORY before rewinding the tape, the zero set memory function is canceled.
- There may be a discrepancy of several seconds from the time code.

If a tape has a blank portion in the recorded portions
The zero set memory function may not correctly.

ZERO SET MEMORY functions also in the standby mode
When you insert a scene in the middle of a recorded tape, press ZERO SET MEMORY at the point you want to end the insertion. Rewind the tape to the insert start point, and start recording. Recording stops automatically at the tape counter zero point. Your camcorder returns to the standby mode.

Примечания
- Функция памяти нулевой отметки работает только для лент, записанных в цифровой системе Digital8 Ɖ.
- Если Вы нажмете кнопку ZERO SET MEMORY до начала обратной перемотки ленты, то функция памяти нулевой отметки будет отменена.
- Может быть расхождение в несколько секунд между кодом времени и действительным временем.

Если на ленте имеется незаписанный участок между записанными изображениями
Функция памяти нулевой отметки может не работать надлежащим образом.

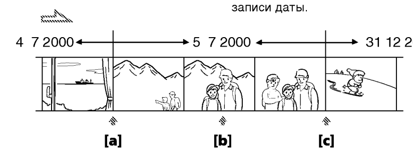
Функция ZERO SET MEMORY также работает в режиме ожидания
Если Вы хотите вставить эпизод в середине записанной ленты, нажмите кнопку ZERO SET MEMORY в том месте, где вы хотите закончить вставку. Перемотайте ленту к месту начала вставки и начните запись. Запись автоматически остановится в месте нулевой отметки счетчика ленты. Ваша видеокамера вернется в режим ожидания.

Searching a recording by date – Date search

You can automatically search for the point where the recording date changes and start playback from that point **(Date search)**. Use the Remote Commander for this operation.
Use this function to check where recording dates change or to edit the tape at each recording date.

Поиск записи по дате – Поиск даты

Вы можете выполнять автоматически поиск места, где изменяется дата записи и начинать воспроизведение с этого места **(поиск даты)**. Используйте пульт дистанционного управления для таких операций.
Используйте эту функцию для проверки, где изменяются даты записи, или же для выполнения монтажа ленты в каждом месте записи даты.



(1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

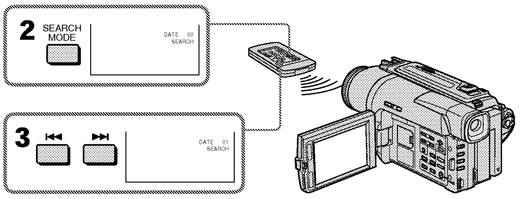
(2) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
The indicator changes as follows:
DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) When the current position is **[b]**, press ⏮ to search towards **[a]** or press ⏭ to search towards **[c]**. Your camcorder automatically starts playback at the point where the date changes.
Each time you press ⏮ or ⏭, the camcorder searches for the previous or next date.

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

(2) Нажимайте повторно кнопку SEARCH MODE на пульте дистанционного управления до тех пор, пока не появится индикатор поиска даты.
Индикатор будет изменяться следующим образом: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) Если текущее положение соответствует варианту **[b]**, нажмите кнопку ⏮ для выполнения поиска в направлении **[a]** или нажмите кнопку ⏭ для выполнения поиска в направлении **[c]**. Ваша видеокамера автоматически начнет воспроизведение в месте, где изменяется дата.
Всякий раз при нажатии кнопки ⏮ или ⏭, видеокамера будет выполнять поиск предыдущей или следующей даты.



To stop searching
Press ■.

Для остановки поиска
Нажмите кнопку ■.

Searching a recording by date - Date search

Notes

- The date search works only for tapes recorded in the Digital8 Ð system.
- If one day's recording is less than two minutes, your camcorder may not accurately find the point where the recording date changes.

If a tape has a blank portion in the recorded portions

The date search function may not work correctly.

Поиск записи по дате – Поиск даты

Примечания

- Режим поиска даты функционирует только для лент, записанных в цифровой системе Digital8 Ð.
- Если в какой-либо из дней Ваша запись продолжалась менее одной минуты, Ваша видеокамера может точно не найти место, где изменяется дата записи.

Если на записанной ленте имеются незаписанные участки

Функция поиска даты будет работать неправильно.

Searching for a photo - Photo search/ Photo scan

You can search for the still image recorded on tape **(photo search)**.
You can also search for still image one after another and display each image for five seconds automatically **(photo scan)**. Use the Remote Commander for these operations.

Searching for a photo

(1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears.
The indicator changes as follows:
DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) Press ⏮ or ⏭ to select the photo for playback. Each time you press ⏮ or ⏭, the camcorder searches for the previous or next photo. Your camcorder automatically starts playback from the photo.

Поиск фото – Фотопоиск/ Фотосканирование

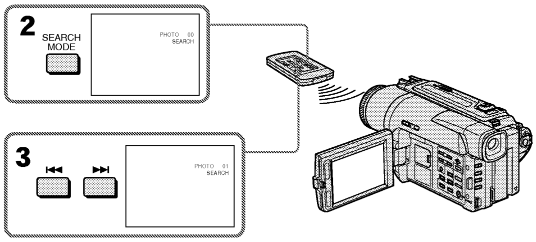
Вы можете выполнять поиск изображения записанного на ленту **(фотопоиск)**.
Вы также можете выполнять поиск неподвижных изображений одно за другим и отображать каждое изображение пять секнд автоматически **(фотосканирование)**. Используйте пульт дистанционного управления для этих операций.

Поиск фото

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

(2) Нажимайте повторно на пульте дистанционного управления кнопку SEARCH MODE до тех пор, пока не появится индикатор фотопоиска.
Индикатор будет изменяться следующим образом: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) Нажмите кнопку ⏮ или ⏭, чтобы выбрать фото для воспроизведения. Всякий раз при нажатии ⏮ или ⏭ видеокамера начинает поиск предыдущего или следующего эпизода. Ваша видеокамера автоматически начнет воспроизведение с этого фото.



To stop searching

Press ■.

Для остановки поиска

Нажмите кнопку ■.

Searching for a photo - Photo search/Photo scan

Scanning photo

(1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo scan indicator appears.
The indicator changes as follows:
DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) Press ⏮ or ⏭.
Each photo is played back for about 5 seconds automatically.

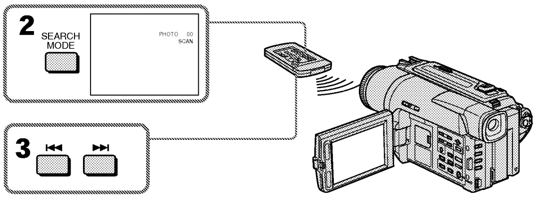
Поиск фото – Фотопоиск/ Фотосканирование

Сканирование фото

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

(2) Нажимайте повторно на пульте дистанционного управления кнопку SEARCH MODE до тех пор, пока не появится индикатор фотосканирования.
Индикатор будет изменяться следующим образом: DATE SEARCH → PHOTO SEARCH → PHOTO SCAN

(3) Нажмите кнопку ⏮ или ⏭.
Каждое фото будет автоматически отображаться примерно 5 секунд.



To stop scanning

Press ■.

Note

The photo search and photo scan work only for tapes recorded in the Digital8 Ð system.

If a tape has a blank portion in the recorded portions

The photo search and photo scan function may not work correctly.

Для остановки сканирования

Нажмите кнопку ■.

Примечание

Фотопоиск и фотосканирование функционируют только для лент, записанных в цифровой системе Digital8 Ð.

Если на записанной ленте имеются незаписанные участки

Функция фотопоиска и фотосканирования может работать неправильно.

— Editing —

Dubbing a tape

Using the A/V connecting cable

Connect your camcorder to the VCR using the A/V connecting cable supplied with your camcorder.

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.

(2) Set the input selector on the VCR to LINE. Refer to the operating instructions of your VCR for more information.

(3) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

(4) Play back the recorded tape on your camcorder.

(5) Start recording on the VCR.
Refer to the operating instructions of your VCR for more information.

— Монтаж —

Перезапись ленты

Использование соединительного кабеля аудио/видео

Подсоедините Вашу видеокамеру к КВМ с помощью соединительного кабеля аудио/видео, который прилагается к Вашей видеокамере.

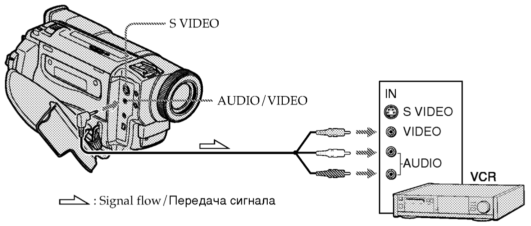
(1) Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить запись) в КВМ и вставьте записанную ленту в Вашу видеокамеру.

(2) Установите селектор входного на КВМ в положение LINE. Более подробные сведения Вы сможете найти в инструкции по эксплуатации Вашего КВМ.

(3) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

(4) Начните воспроизведение записанной ленты на Вашей видеокамере.

(5) Начните запись на Вашем КВМ.
Более подробные сведения Вы сможете найти в инструкции по эксплуатации Вашего КВМ.



⇨ : Signal flow/Передача сигнала

When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

Если Вы закончили перезапись ленты

Нажмите кнопку ■ как на видеокамере, так и на КВМ.

If you have displayed the screen indicators on the TV
Make the indicators disappear by pressing SEARCH MODE on the Remote Commander, DISPLAY or DATA CODE so that they will not be superimposed on the edited tape.

You can edit on VCRs that support the following systems:
8 8 mm, **Hi8** Hi8, **VHS** VHS, **SVHS** S-VHS, **VHSC** VHSC, **SVHSC** S-VHSC, **B** Betamax, **MiniDV** mini DV, **DV** DV or **D8** Digital8

If your VCR is a monaural type
Connect the yellow plug of the A/V connecting cable to the video input jack and the white or the red plug to the audio input jack on the VCR or the TV. When the white plug is connected, the left channel audio is output, and the red plug is connected, the right channel audio is output.

If your VCR has an S video jack
Connect using an S video cable (not supplied) to obtain high-quality pictures.
With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the VCR.

При отображении экранных индикаторов на экране телевизора
Добейтесь того, чтобы индикаторы исчезли, нажимая кнопку SEARCH MODE на пульте дистанционного управления, кнопку DISPLAY или DATA CODE, так чтобы они не были наложены на монтажную ленту.

Вы можете выполнять монтаж на КВМ, которые поддерживают следующие системы:
8 8 мм, **Hi8** Hi8, **VHS** VHS, **SVHS** S-VHS, **VHSC** VHSC, **SVHSC** S-VHSC, **B** Betamax, **MiniDV** мини DV, **DV** DV или **D8** Digital8

Если Ваш КВМ монофонического типа
Подсоедините желтый штекер соединительно кабеля аудио/видео к входному видеогнезду, а белый или красный штекер к входному аудиогнезду на КВМ или телевизоре. Если подсоединен белый штекер, то выходным сигналом будет звук левого канала, а если подсоединен красный штекер, то выходным сигналом будет звук правого канала.

Если в Вашем КВМ имеется гнездо S видео
Выполните подсоединение с помощью кабеля S видео (не прилагается) для получения высококачественных изображений.
При таком подсоединении Вам не нужно подсоединять желтый (видео) штекер соединительного кабеля аудио/видео.
Подсоедините кабель S видео (не прилагается) к гнездам S видео на Вашей видеокамере и КВМ.

Using the i.LINK cable (DV connecting cable)

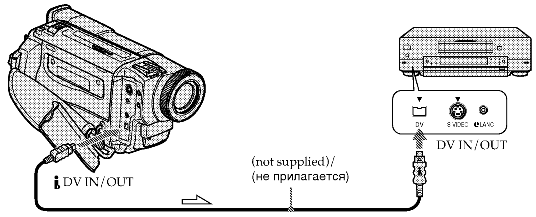
Simply connect the i.LINK cable (DV connecting cable) (not supplied) to i DV IN/OUT or i DV OUT and to DV IN/OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing. You cannot dub the screen indicators.

(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.
(2) Set the input selector on the VCR to DV IN if it is available.
Refer to the operating instructions of your VCR for more infomation.
(3) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
(4) Play back the recorded tape on your camcorder.
(5) Start recording on the VCR.
Refer to the operating instructions of your VCR for more infomation.

Использование кабеля i.LINK (соединительного кабеля цифрового видеосигнала DV)

Просто подсоедините кабель i.LINK (соединительный кабель цифрового видеосигнала DV) (не прилагается) к гнезду i DV IN/OUT или i DV OUT и к гнезду DV IN/OUT цифровых видеоизделий. При цифро-цифровом соединении видео- и аудиосигналы передаются в цифровой форме для последующего высококачественного монтажа. Вы не можете выполнить перезапись экранных индикаторов.

(1) Вставьте незаписанную ленту (или ленту, на которую хотите выполнить запись) в КВМ и вставьте записанную ленту в Вашу видеокамеру.
(2) Установите селектор входного сигнала на КВМ в положение DV IN, если оно имеется в наличии.
Более подробные сведения приведены в инструкции по эксплуатации Вашего КВМ.
(3) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
(4) Начните воспроизведение записанной ленты на Вашей видеокамере.
(5) Начните запись на КВМ.
Более подробные сведения приведены в инструкции по эксплуатации Вашего КВМ.



⇨ : Signal flow/Передача сигнала

When you have finished dubbing a tape
Press ■ on both your camcorder and the VCR.

Если Вы закончили перезапись ленты
Нажмите кнопку ■ как на Вашей видеокамере, так и на КВМ.

Note on tapes that are not recorded in the Digital8 D8 system
The picture may fluctuate. This is not a malfunction.

During playback of tapes recorded in the Hi8/standard 8 system
Digital signals are output as the image signals from the i DV IN/OUT or i DV OUT jack.

You can connect one VCR only using the i.LINK cable (DV connecting cable).
See page 138 for more infomation about i.LINK.

During digital editing
You cannot use PICTURE EFFECT or DIGITAL EFFECT button function.

If you record playback pause picture via the i DV IN/OUT or i DV OUT jack
The recorded picture becomes rough. Also, when you play back the recorded pictures on other video equipment, the picture may jitter.

Примечание относительно лент, которые были записаны не в цифровой системе Digital8 D8
Возможно подрагивание изображения. Это не является неисправностью.

Во время воспроизведения лент, записанных в системе Hi8/стандартной системе 8
Цифровые сигналы выводятся в качестве сигналов изображения гнездо i DV IN/OUT или гнездо i DV OUT.

Вы можете подсоединить только один КВМ с помощью кабеля i.LINK (соединительного кабеля цифрового видеосигнала DV).
Более подробные сведения относительно i.LINK приведены на стр. 138.

Во время цифрового монтажа
Вы не можете использовать функцию кнопок PICTURE EFFECT или DIGITAL EFFECT.

При записи на паузе воспроизводимого изображения через гнездо i DV IN/OUT или гнездо i DV OUT
Записанное изображение будет искаженным. Также, при воспроизведении записанных изображений на другой видеоаппаратуре, изображение может подрагивать.

Using with analog video unit and PC – Signal convert function

Использование с аналоговым видеоаппаратом и персональным компьютером – Функция преобразования сигналов

– DCR-TRV620E only
You can capture images and sound from an analog video unit connected to a PC which has the i.LINK (DV) jack to your camcorder.

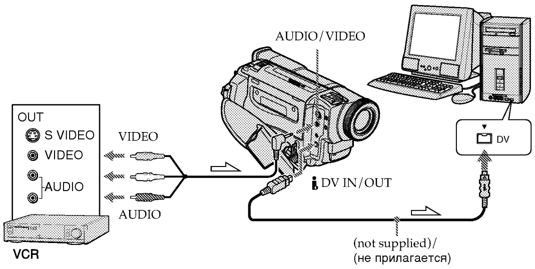
Analog video signals → Digital video signals

(1) Set the POWER switch to VTR.
(2) Set A/V → DV OUT to ON in the menu settings. (P. 85)
(3) Start playback on the analog video unit.
(4) Start capturing procedures on your PC.
The operation procedures depend on your PC and the software which you use.
For details on how to capture images, refer to the instruction manual of the software.

– Только DCR-TRV620E
Вы можете записать изображения и звук от аналогового аппарата, подсоединенного к персональному компьютеру, в котором имеется гнездо i.LINK (DV) для Вашей видеокамеры.

Аналоговые сигналы → Цифровые видеосигналы

(1) Установите переключатель POWER в положение VTR.
(2) Установите опцию A/V → DV OUT в положение ON в установках меню (стр. 85).
(3) Начните воспроизведение на аналоговом видеоаппарате.
(4) Начните процедуру записи на Вашем персональном компьютере.
Эти процедуры зависят от Вашего персонального компьютера и программного обеспечения, которое Вы используете.
Подробные сведения о записи изображений приведены в руководстве по использованию программного обеспечения.



⇨ : Signal flow/Передача сигнала

Using with analog video unit and PC – Signal convert function

After capturing images and sound

Stop capturing procedures on your PC, and stop the playback on the analog video unit.

Notes

- You need to install software which can exchange video signals.
- Depending on the condition of the analog video signals, the PC may not be able to output the images correctly when you convert analog video signals into digital video signals via your camcorder.
  Depending on the analog video unit, the image may contain noise or incorrect colours.
- You cannot record or capture the video output via your camcorder when the video includes copyright protection signals such as ID-2 system.

Использование с аналоговым видеоаппаратом и персональным компьютером – Функция преобразования сигналов

После записи изображений и звука

Остановите процедуру записи на Вашем персональном компьютере и остановите воспроизведение на аналоговом видеоаппарате.

Примечания

- Вам нужно установить программное обеспечение, позволяющее выполнять обмен видеосигналов.
- В зависимости от состояния аналоговых видеосигналов, персональный компьютер может не передавать изображения надлежащим образом при преобразовании аналоговых видеосигналов в цифровые видеосигналы с помощью Вашей видеокамеры.
  В зависимости от аналогового видеоаппарата, изображение может содержать помехи или искаженные цвета.
- Вы не можете выполнять запись или съемку выходных видеосигналов с помощью Вашей видеокамеры, если видеосигнал содержит сигналы защиты авторских прав, такие, как систему ID-2.

Recording video or TV programmes

– DCR-TRV620E only

Using the A/V connecting cable

You can record a tape from another VCR or a TV programme from a TV that has video/audio outputs. Use your camcorder as a recorder.

(1) Insert a blank tape (or a tape you want to record over) into your camcorder. If you are recording a tape from the VCR, insert a recorded tape into the VCR.
(2) Set the POWER switch to VTR.
(3) Set DISPLAY to LCD in the menu settings (p. 85).
(4) Press ● REC and the button on its right simultaneously on your camcorder, then immediately press ❚❚ on your camcorder.
(5) Press ► on the VCR to start playback if you are recording a tape from VCR. Select a TV programme if you are recording from TV.
The picture from a TV or VCR appears on the LCD screen or in the viewfinder.
(6) Press ❚❚ on your camcorder at the scene where you want to start recording from.

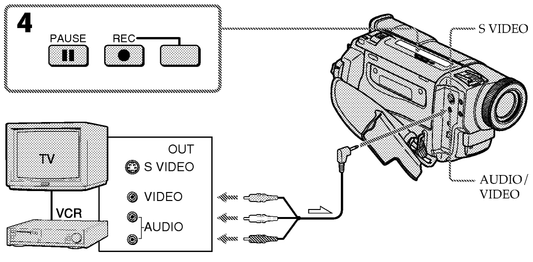
Запись видео или телевизионных программ

– Только DCR-TRV620E

Использование соединительного кабеля аудио/видео

Вы можете записать ленту с другого КВМ или телевизионной программы с телевизора, в котором имеются выходы видео/аудио. Используйте Вашу видеокамеру в качестве магнитофона.

(1) Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить перезапись) в Вашу видеокамеру. Если Вы записываете ленту с КВМ, вставьте записанную ленту в КВМ.
(2) Установите переключатель POWER в положение VTR.
(3) Установите опцию DISPLAY в положение LCD в установках меню (стр. 85).
(4) Нажмите кнопку ● REC и кнопку справа от нее одновременно на Вашей видеокамере, а затем тотчас же нажмите кнопку ❚❚ на Вашей видеокамере.
(5) Нажмите кнопку ► на КВМ для начала воспроизведения, если Вы записываете ленту с КВМ. Выберите телевизионную программу, если Вы записываете программу с телевизора. Изображение от телевизора или КВМ появится на экране ЖКД или в видоискателе.
(6) Нажмите кнопку ❚❚ на Вашей видеокамере в том месте, где Вы хотите начать запись.



: Signal flow / Передача сигнала

When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

Если Вы закончили перезапись на ленту

Нажмите кнопку ■ на видеокамере и на КВМ.

Recording video or TV programmes

Notes

- To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8/standard 8 with the Digital8 Ð system on a tape.
- If you fast-forward or slow-playback on the other equipment, the image being recorded may fluctuate. When recording from other equipment, be sure to play back the original tape at normal speed.

If your VCR is a monaural type

Connect the yellow plug of the A/V connecting cable to the video output jack and the white or the red plug to the audio output jack on the VCR or the TV. When the white plug is connected, the left channel audio is output, and the red plug is connected, the right channel audio is output.

If your TV or VCR has an S video jack

Connect using an S video cable (not supplied) to obtain high-quality pictures.
With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the TV or VCR.

Запись видео или телевизионных программ

Примечания

- Для обеспечения плавного перехода рекомендуется не смешивать изображения, записанные в системе Hi8/стандартной системе 8 с цифровой системой Digital8 Ð на ленту.
- В случае ускоренного или замедленного воспроизведения на другом аппарате записанное изображение может подрагивать. При записи с другого аппарата Вам следует воспроизводить оригинальную запись на нормальной скорости.

Если Ваш КВМ монофонического типа

Подсоедините желтый штекер соединительного кабеля аудио/видео к выходному видеогнезду, а белый или красный штекер к выходному аудиогнезду на КВМ или телевизоре. Если подсоединен белый штекер, то выходной сигнал будет передаваться через левый канал, а если подсоединен красный штекер, то выходной сигнал будет передаваться через правый канал.

Если в Вашем телевизоре или КВМ имеется гнездо S видео

Выполните подсоединение с помощью кабеля S видео (не прилагается) для получения высококачественных изображений.
При данном подсоединении Вам не нужно подсоединять желтый (видео) штекер соединительного кабеля аудио/видео.
Подсоедините кабель S видео (не прилагается) к гнездам S видео на видеокамереи телевизоре или КВМ.

Recording video or TV programmes

– DCR-TRV620E only

Using the i.LINK cable (DV connecting cable)

Simply connect the i.LINK cable (DV connecting cable) (not supplied) to i DV IN/OUT and to DV IN/OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing.

(1) Insert a blank tape (or a tape you want to record over) into your camcorder, and insert the recorded tape into the VCR.
(2) Set the POWER switch to VTR.
(3) Set DISPLAY to LCD in the menu settings (p. 85).
(4) Press ● REC and the button on its right simultaneously on your camcorder, then immediately press ❚❚ on your camcorder.
(5) Press ► on the VCR to start playback.
The picture from a TV or VCR appears on the LCD screen or in the viewfinder.
(6) Press ❚❚ on your camcorder at the scene where you want to start recording from.

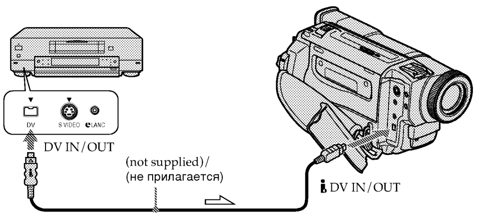
Запись видео или телевизионных программ

– Только DCR-TRV620E

Использование кабеля Использование кабеля i.LINK (соединительного кабеля цифрового видеосигнала DV)

Просто подсоедините кабель i.LINK (соединительный кабель цифрового видеосигнала DV) (не прилагается) к гнезду i DV IN/OUT или DV OUT и к гнезду DV IN/OUT цифровых видеоизделий. При цифро-цифровом подсоединении видео- и аудиосигналы передаются в цифровой форме для высококачественного монтажа.

(1) Вставьте незаписанную ленту (или ленту, на которую Вы хотите выполнить перезапись) в Вашу видеокамеру и вставьте ленту для записи в КВМ.
(2) Установите переключатель POWER в положение VTR.
(3) Установите опцию DISPLAY в положение LCD в установках меню (стр. 85).
(4) Нажмите кнопку ● REC и кнопку справа от нее одновременно на Вашей видеокамере, а затем тотчас же нажмите кнопку ❚❚ на Вашей видеокамере.
(5) Нажмите кнопку ► на КВМ для начала воспроизведения.
Изображение от телевизора или КВМ появится на экране ЖКД или в видоискателе.
(6) Нажмите кнопку ❚❚ на Вашей видеокамере в том месте, где Вы хотите начать запись.



: Signal flow / Передача сигнала

When you have finished dubbing a tape

Press ■ on both your camcorder and the VCR.

Если Вы закончили перезапись на ленту

Нажмите кнопку ■ на видеокамере и на КВМ.

Recording video or TV programmes

You can connect one VCR only using the i.LINK cable (DV connecting cable).

During digital editing
The colour of the display may be uneven. However this does not affect the dubbed picture.

If you record playback pause picture with the i DV IN/OUT jack
The recorded picture becomes rough. And when you play back the picture using your camcorder, the picture may jitter.

Before recording
Make sure if the DV IN indicator appears on the LCD screen or in the viewfinder by pressing DISPLAY. The DV IN indicator may appear on both equipment.

Запись видео или телевизионных программ

Вы можете подсоединить один КВМ только с помощью кабеля i.LINK (соединительный кабель DV).

Во время цифрового монтажа
Цвет дисплея может быть неравномерным. Однако это не влияет на перезаписываемое изображение.

При записи изображения в режиме паузы воспроизведения через гнездо i DV IN/OUT
Записанное изображение станет искаженным. А если Вы воспроизводите изображение с помощью Вашей видеокамеры, изображение может подрагивать.

Перед записью
Убедитесь, что индикатор DV IN появился на экране ЖКД или в видоискателе при нажатии кнопки DISPLAY. Индикатор DV IN может появиться на обоих аппаратах.

Inserting a scene from a VCR – Insert Editing

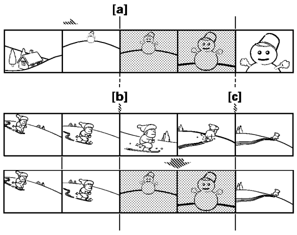
– DCR-TRV620E only

You can insert a new scene from a VCR onto your originally recorded tape by specifying the insert start and end points.
Use the Remote Commander for this operation.
Connections are the same as in "Recording video or TV programmes" on page 79, 81. Insert a cassette containing the desired scene to insert into the VCR.

Вставка эпизода с КВМ – Монтаж вставок

– Только DCR-TRV620E

Вы можете вставить новый эпизод с КВМ на Вашу первоначально записанную ленту, указав точки начала и конца вставок.
Для этой операции используйте пульт дистанционного управления.
Подсоединения являются такими же, как и в разделе "Запись видео или телевизионных программ" на стр. 79, 81. Вставьте кассету, на которой содержится нужный эпизод для вставки в КВМ.

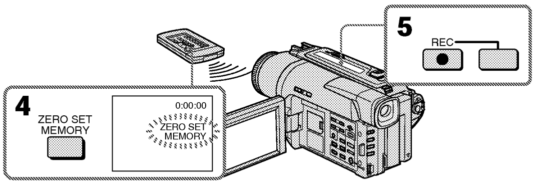


Inserting a scene from a VCR – Insert Editing

(1) Set the POWER switch to VTR.
(2) On the VCR, locate just before the insert start point **[a]**, then press ❚❚ to set the VCR to the playback pause mode.
(3) On your camcorder, locate the insert end point **[c]** by pressing ◀◀ or ▶▶. Then press ❚❚ to set it to the playback pause mode.
(4) Press ZERO SET MEMORY on the Remote Commander. The ZERO SET MEMORY indicator flashes and the end point of the insert is stored in memory.
(5) On your camcorder, locate the insert start point **[b]** by pressing ◀◀, then press ● REC and the button on its right simultaneously to set your camcorder to the recording pause mode.
(6) First press ❚❚ on the VCR, and after a few seconds press ❚❚ on your camcorder to start inserting the new scene.
Inserting automatically stops near the zero point on the counter. Your camcorder automatically stops. The end point **[c]** of the insert stored in memory is canceled.

Вставка эпизода с КВМ – Монтаж вставок

(1) Установите переключатель POWER в положение VTR.
(2) На КВМ, найдите место как раз перед точкой начала вставки **[a]**, затем нажмите кнопку ❚❚ для установки КВМ в режим паузы воспроизведения.
(3) На Вашей видеокамере, найдите точку конца вставки **[c]**, нажав кнопку ◀◀ или ▶▶. Затем нажмите кнопку ❚❚ для установки видеокамеры в режим паузы воспроизведения.
(4) Нажмите кнопку ZERO SET MEMORY на пульте дистанционного управления. Начнет мигать индикатор ZERO SET MEMORY, а точка конца вставки будет сохранена в памяти.
(5) На Вашей видеокамере, найдите точку начала вставки **[b]**, нажав кнопку ◀◀, затем одновременно нажмите кнопку ● REC и кнопку справа для установки Вашей видеокамеры в режим паузы записи.
(6) Сначала нажмите кнопку ❚❚ на КВМ, а через несколько секунд нажмите кнопку ❚❚ на Вашей видеокамере для начала вставки нового эпизода.
Вставка автоматически остановится возле нулевой точки на счетчике. Ваша видеокамера автоматически остановится. Точка конца вставки **[c]**, сохраненная в памяти, будет аннулирована.



To change the insert end point

Press ZERO SET MEMORY again after step 5 to erase the ZERO SET MEMORY indicator and begin from step 3.

Notes
- The zero set memory function works only for tapes recorded in the Digital8 Ð system.
- The picture and sound recorded on the section between the insert start and end points will be erased when you insert the new scene.

When the inserted picture is played back
The picture may be distorted at the end of the inserted section. This is not a malfunction.

To insert a scene without setting the insert end point
Skip step 3 and 4. Press ■ when you want to stop inserting.

Для изменения точки конца вставки

Нажмите кнопку ZERO SET MEMORY еще раз после пункта 5 для удаления индикатора ZERO SET MEMORY и начните с действия пункта 3.

Примечания
- Функция памяти установки нуля работает только для лент, записанных в цифровой системе Digital8 Ð.
- Изображение и звук, записанные на участке между точками начала и конца вставки, будут стерты, если Вы вставите новый эпизод.

При воспроизведение вставленного изображения
Изображение может быть искажено в конце вставленного участка. Это не является неисправностью.

Для вставки эпизода без установки точки конца вставки
Пропустите пункт 3 и 4. Нажмите кнопку ■, если Вы хотите остановить вставку.

— Customizing Your Camcorder —

Changing the menu settings

To change the mode settings in the menu settings, select the menu items with the SEL/PUSH EXEC dial. The default settings can be partially changed. First, select the icon, then the menu item and then the mode.
(1) In CAMERA, VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY mode, press MENU.
(2) Turn the SEL/PUSH EXEC dial to select the desired icon, then press the dial to set.
(3) Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial to set.
(4) Turn the SEL/PUSH EXEC dial to select the desired mode, and press the dial to set.
(5) If you want to change other items, select ⮐ RETURN and press the dial, then repeat steps from 2 to 4.

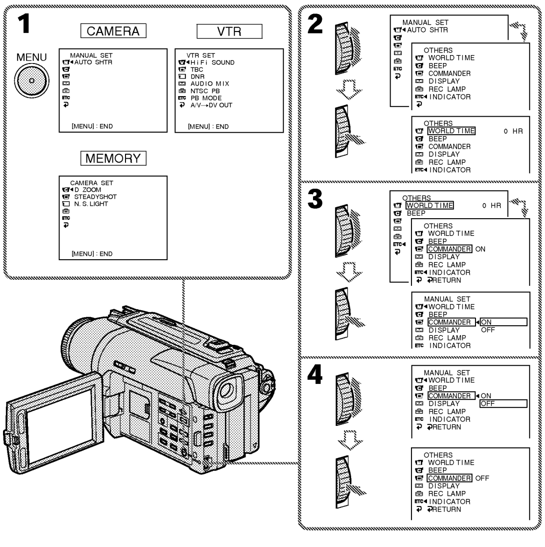
For details, see "Selecting the mode setting of each item" (p. 86).

— Выполнение индивидуальных установок на видеокамере —

Изменение установок меню

Для изменения установок режима в установках меню выберите пункты меню с помощью диска SEL/PUSH EXEC. Установки по умолчанию можно частично изменить. Сначала выберите пиктограмму, затем пункт меню, а затем режим.
(1) В режиме CAMERA, VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) или MEMORY нажмите кнопку MENU.
(2) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
(3) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
(4) Поверните диск SEL/PUSH EXEC для выбора нужной пиктограммы, а затем нажмите диск для выполнения установки.
(5) Если Вы хотите изменить другие пункты, выберите команду ⮐ RETURN, а затем нажмите диск, после чего повторите действия пунктов 2–4.

Подробные сведения приведены в разделе "Выбор установок режима по каждому пункту" (стр. 92).



Changing the menu settings

To make the menu display disappear
Press MENU.

Menu items are displayed as the following icons:

- MANUAL SET
- CAMERA SET
- VTR SET (DCR-TRV620E)
- PLAYER SET (DCR-TRV420E/TRV520E)
- LCD/VF SET
- MEMORY SET
- TAPE SET
- SETUP MENU
- OTHERS

Изменение установок меню

Для того, чтобы исчезла индикация меню
Нажмите кнопку MENU.

Пункты меню отображаются в виде приведенных ниже пиктограмм:

- MANUAL SET
- CAMERA SET
- VTR SET (модель DCR-TRV620E)
- PLAYER SET(модель DCR-TRV420E/520E)
- LCD/VF SET
- MEMORY SET
- TAPE SET
- SETUP MENU
- OTHERS

English

Selecting the mode setting of each item

● is the default setting.

Menu items differ according to the position of the POWER switch.
The LCD screen and the viewfinder show only the items you can operate at the moment.

Icon/item	Mode	Meaning	POWER switch
AUTO SHTR	● ON	To automatically activate the electronic shutter when shooting in bright conditions	CAMERA
	OFF	To not automatically activate the electronic shutter even when shooting in bright conditions	
D ZOOM	● OFF	To deactivate digital zoom. Up to 25× zoom is carried out.	CAMERA MEMORY
	50×	To activate digital zoom. More than 25× to 50× zoom is performed digitally. (p. 24)	
	100×*	To activate digital zoom. More than 25× to 100× zoom is performed digitally. (p. 24)	
16:9WIDE	● OFF	—	CAMERA
	ON	To record a 16:9 wide picture (p. 45)	
STEADYSHOT	● ON	To compensate for camera-shake	CAMERA MEMORY
	OFF	To cancel the SteadyShot function. Natural pictures are produced when shooting a stationary object with a tripod.	
N.S. LIGHT	● ON	To use the NightShot Light function (p. 28)	CAMERA MEMORY
	OFF	To cancel the NightShot Light function	

* 125× (DCR-TRV420E only)

Notes on the SteadyShot function
- The SteadyShot function will not correct excessive camera-shake.
- Attachment of a conversion lens (not supplied) may influence the SteadyShot function.

If you cancel the SteadyShot function
The SteadyShot off indicator appears. Your camcorder prevents excessive compensation for camera-shake.

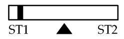
Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
HiFi SOUND	● STEREO	To play back a stereo tape or dual sound track tape with main and sub sound	VTR/PLAYER
	1	To play back a stereo tape with the left sound or a dual sound track tape with main sound	
	2	To play back a stereo tape with the right sound or a dual sound track tape with sub sound	
TBC*	● ON	To correct jitter	VTR/PLAYER
	OFF	To not correct jitter Set TBC to OFF when playing back a tape on which you have dubbed over and recorded the signal of a TV game or similar machine.	

TBC stands for "Time Base Corrector".

Icon/item	Mode	Meaning	POWER switch
DNR*	● ON	To reduce picture noise	VTR/PLAYER
	OFF	To reduce a conspicuous afterimage when the picture has a lot of movement	

DNR stands for "Digital Noise Reduction".

Icon/item	Mode	Meaning	POWER switch
AUDIO MIX	——	To adjust the balance between the stereo 1 and stereo 2 	VTR/PLAYER
NTSC PB	● ON PAL TV	To playback a tape recorded on your camcorder on a PAL system TV	VTR/PLAYER
	NTSC 4.43	To playback a tape recorded in the NTSC colour system on a TV with the NTSC 4.43 mode	
PB MODE	● AUTO	To automatically select the system (Hi8/standard 8 or Digital8 Ð) that was used to record on the tape, and play back the tape	VTR/PLAYER
	Hi8/8	To play back a tape that was recorded in the Hi8/standard 8 system when your camcorder does not automatically distinguish the recording system	
A/V → DV OUT (DCR-TRV620E only)	● OFF	To convert digital video signals into analog video signals via your camcorder	VTR
	ON	To convert analog video signals into digital video signals via your camcorder "A/V → DV" appears on the LCD screen or in the viewfinder. (p. 77)	

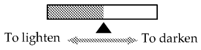
* When you play back tapes recorded in the Hi8/standard 8 system only.

Notes on AUDIO MIX
- When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance.
- You can adjust the balance only for tapes recorded in the Digital8 Ð system.

Note on NTSC PB
When you play back a tape on a Multi System TV, select the best mode while viewing the picture on the TV.

Note on PB MODE
The mode will return to the default setting when:
– you remove the battery pack or power source.
– you turn the POWER switch.

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
LCD B. L.	● BRT NORMAL	To set the brightness on the LCD screen normal	VTR/PLAYER CAMERA MEMORY
	BRIGHT	To brighten the LCD screen	
LCD COLOUR	——	To adjust the colour on the LCD screen, turning the SEL/PUSH EXEC dial to adjust the following bar 	VTR/PLAYER CAMERA MEMORY
VF B.L.	● BRT NORMAL	To set the brightness in the viewfinder normal	VTR/PLAYER CAMERA MEMORY
	BRIGHT	To brighten the viewfinder	
CONTINUOUS	● OFF	Not to record continuously	MEMORY
	MULTI SCRN	To record 9 images continuously (p. 107)	
QUALITY	● FINE	To record still images in the fine image quality mode, using the "Memory Stick"	VTR/PLAYER MEMORY
	STANDARD	To record still images in the standard image quality mode, using the "Memory Stick"	
FLD./FRAME	● FIELD	To record moving subjects	MEMORY
	FRAME	To record stopping subjects in high quality	
PRINT MARK	● OFF	To cancel print marks on still images	VTR/PLAYER MEMORY
	ON	To write a print mark on the recorded still images you want to print out later	
PROTECT	● OFF	Not to protect still images	VTR/PLAYER MEMORY
	ON	To protect selected still images against accidental erasure (p. 128)	
SLIDE SHOW	——	To play back images in a continuous loop (p. 126)	MEMORY
DELETE ALL	——	To delete all the images (p. 131)	VTR/PLAYER MEMORY
FORMAT	● RETURN	To cancel formatting	VTR/PLAYER MEMORY
	FORMAT	To format an inserted "Memory Stick" 1. Select FORMAT with the SEL/PUSH EXEC dial, then press the dial. 2. Turn the SEL/PUSH EXEC dial to select FORMAT, then press the dial. 3. After EXECUTE appears, press the SEL/PUSH EXEC dial. FORMATTING appears during formatting. COMPLETE appears when formatting is finished.	
PHOTO SAVE	——	To duplicate still images (p. 117)	VTR/PLAYER

Notes on LCD B.L. and VF.B.L.
- When you select BRIGHT, battery life is reduced by about 10 percent during recording.
- When you use power sources other than the battery pack, BRIGHT is automatically selected.

Notes on formatting
- Supplied or optional "Memory Stick"s have been formatted at factory. Formatting with this camcorder is not required.
- Do not turn the POWER switch or press any button while the display shows FORMATTING.
- You cannot format the "Memory Stick" if the write-protect tab on the "Memory Stick" is set to LOCK.
- Format again if the message appears.

Formatting erases all information on the "Memory Stick"
Check the contents of the "Memory Stick" before formatting.
- Formatting erases sample images on the "Memory Stick."
- Formatting erases the protected image data on the "Memory Stick."

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
REC MODE	● SP	To record in the SP (Standard Play) mode	VTR/PLAYER CAMERA
	LP	To increase the recording time to 1.5 times the SP mode	
AUDIO MODE	● 12BIT	To record or play back in the 12-bit mode (two stereo sounds)	VTR/PLAYER* CAMERA
	16BIT	To record or play back in the 16-bit mode (the one stereo sound with high quality)	
REMAIN	● AUTO	To display the remaining tape bar: • for about 8 seconds after your camcorder is turned on and calculates the remaining amount of tape • for about 8 seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape • for about 8 seconds after ► is pressed in VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode • for about 8 seconds after DISPLAY is pressed to display the screen indicators • for the period of tape rewinding, forwarding or picture search in the VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E) mode	VTR/PLAYER CAMERA
	ON	To always display the remaining tape bar	
DATA CODE	● DATE/CAM	To display date, time and recording data during playback	VTR/PLAYER
	DATE	To display date and time during playback	

Note on REC MODE
When you record on the standard 8 8 tape, your camcorder records in the SP mode even you select the LP mode in the menu settings. In this case, the indicator "8 mm TAPE → SP REC, Hi8 TAPE → LP/SP REC" appears on the LCD screen or in the viewfinder. Use the Hi8 Hi8 tapes for the LP mode.

Notes on the LP mode
- When you record a tape in the LP mode on your camcorder, we recommend playing the tape on your camcorder. When you play back the tape on other camcorders or VCRs, noise may occur in images or sound.
- When you record in the SP and LP modes on one tape or you record some scenes in the LP mode, the playback image may be distorted or the time code may not be written properly between scenes.

Note on AUDIO MODE
When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance in AUDIO MIX.

***To dub a tape to another VCR**
You cannot select AUDIO MODE for tapes recorded in the Digital8 Ð system. You, however, can select AUDIO MODE when you dub tapes recorded in the Hi8/standard 8 system to another VCR using the i.LINK cable.

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
▤ **CLOCK SET**	——	To reset the date or time (p. 98)	CAMERA MEMORY
LTR SIZE	● NORMAL	To display selected menu items in normal size	VTR/PLAYER CAMERA MEMORY
	2×	To display selected menu items at twice the normal size	
DEMO MODE	● ON	To make the demonstration appear	CAMERA
	OFF	To cancel the demonstration mode	

Notes on DEMO MODE

- You cannot select DEMO MODE when a cassette is inserted in your camcorder.
- DEMO MODE is set to STBY (Standby) at the factory and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.
  To cancel the demonstration, insert a cassette, set the POWER switch to other than CAMERA, or set DEMO MODE to OFF.
- When NIGHTSHOT is set to ON, the "NIGHTSHOT" indicator appears on the LCD screen or in the viewfinder and you cannot select DEMO MODE in the menu settings.

Changing the menu settings

Icon/item	Mode	Meaning	POWER switch
ETC **WORLD TIME**	——	To set the clock to the local time. Turn the SEL/PUSH EXEC dial to set a time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time.	CAMERA MEMORY
BEEP	● MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder	VTR/PLAYER CAMERA MEMORY
	NORMAL	To output the beep instead of the melody	
	OFF	To cancel all sound including shutter sound	
COMMANDER	● ON	To activate the Remote Commander supplied with your camcorder	VTR/PLAYER CAMERA MEMORY
	OFF	To deactivate the Remote Commander to avoid remote control misoperation caused by other VCR's remote control	
DISPLAY	● LCD	To show the display on the LCD screen and in the viewfinder	VTR/PLAYER CAMERA MEMORY
	V-OUT/LCD	To show the display on the TV screen, LCD screen and in the viewfinder	
REC LAMP	● ON	To light up the camera recording lamp at the front of your camcorder	CAMERA MEMORY
	OFF	To turn the camera recording lamp off so that the subject is not aware of the recording	
INDICATOR	● BL OFF	To turn off the backlight on display window	VTR/PLAYER CAMERA MEMORY
	BL ON	To turn on the backlight	

Note

If you press DISPLAY with DISPLAY set to V-OUT/LCD in the menu settings, the picture from a TV or VCR will not appear on the LCD screen even when your camcorder is connected to outputs on the TV or VCR. (Except when your camcorder is connected with the i.LINK cable.)

In more than 5 minutes after removing the power source

The AUDIO MIX, COMMANDER and HiFi SOUND items are returned to their default settings.
The other menu items are held in memory even when the battery is removed, as long as the lithium battery is installed.

Notes on INDICATOR

- When you select BL ON, battery lite is reduced by about 10 percent during recording.
- When you use power sources other than the battery pack, BL ON is automatically selected.

Resetting the date and time

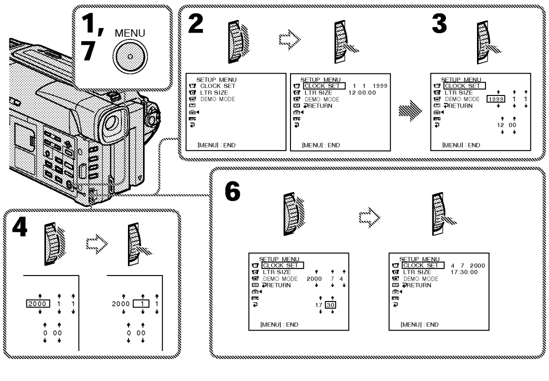
The default clock setting is set to London time for United Kingdom and to Paris time for the other European countries Time.
The date and time are held in memory by the lithium battery. If you replace the lithium battery with the battery pack or other power source connected, you need not reset the date and time. You must reset the date and time when the lithium battery becomes dead with no power source installed.
First, set the year, then the month, the day, the hour and then the minute.

(1) While the camcorder is in the standby mode, press MENU to display the menu settings.
(2) Turn the SEL/PUSH EXEC dial to select ▤, then press the dial.
(3) Turn the SEL/PUSH EXEC dial to select CLOCK SET, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to adjust the desired year, then press the dial.
(5) Set the month, day and hour by turning the SEL/PUSH EXEC dial and pressing the dial.
(6) Set the minute by turning the SEL/PUSH EXEC dial and pressing the dial by the time signal. The clock starts to move.
(7) Press MENU to make the menu settings disappear.

Переустановка даты и времени

Установка часов по умолчанию соответствует времени Лондона для моделей Соединенного Королевства и времени Парижа для других европейских моделей.
Дата и время сохраняются в памяти с помощью литиевой батарейки. Если Вы от литиевой батарейки переключитесь на батарейный блок или другой подсоединенный источник питания, Вам нужно будет переустановить дату и время. Вам нужно также переустановить дату и время, когда литиевая батарейка разрядится и в это время не будет вставлен источник питания.
Сначала установите год, затем месяц, день, час и минуту.

(1) В режиме ожидания видеокамеры нажмите кнопку MENU для отображения установок меню.
(2) Поверните диск SEL/PUSH EXEC для выбора индикации ▤, а затем нажмите диск.
(3) Поверните диск SEL/PUSH EXEC для выбора команды CLOCK SET, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора нужного года, а затем нажмите диск.
(5) Установите месяц, день и час путем вращения диска SEL/PUSH EXEC и нажимания диска.
(6) Установите минуты путем вращения диска SEL/PUSH EXEC и нажимания диска в момент передачи сигнала точного времени. Часы начнут функционировать.
(7) Нажмите кнопку MENU для того, чтобы исчезли установки меню.



Resetting the date and time

The year changes as follows:

1999 ↔ 2000 ← · · · · → 2029

If you do not set the date and time

"– – – – – – – –" "– –:– –:– –" is recorded on the tape and the "Memory Stick".

Note on the time indicator

The internal clock of your camcorder operates on a 24-hour cycle.

Переустановка даты и времени

Год изменяется следующим образом:

Если Вы не установили дату и время

На ленту и "Memory Stick" будет записываться индикация "– – – – – – – –" "– –:– –:– –".

Примечание по индикатору времени

Встроенные часы Вашей видеокамеры работают в 24-часовом режиме.

— "Memory Stick" operations —

Using "Memory Stick"-introduction

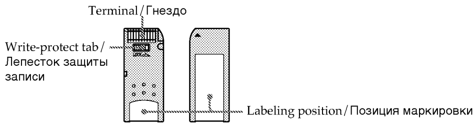
You can record and play back still images on the "Memory Stick" supplied with your camcorder. You can easily play back, record or delete still images. You can exchange image data with other equipment such as a personal computer etc., using the serial port adaptor for "Memory Stick" (not supplied) or PC card adaptor for "Memory Stick" (not supplied).

On file format (JPEG)
Your camcorder compresses image data in JPEG format (extension .jpg).

Typical image data file name

100-0001:	This file name appears on the LCD screen or in the viewfinder of your camcorder
Dsc00001. jpg:	This file name appears on the display of your personal computer.

Before using "Memory Stick"


Terminal/Гнездо
Write-protect tab/ Лепесток защиты записи
Labeling position/Позиция маркировки

- You cannot record or erase still images when the write-protect tab on the "Memory Stick" is set to LOCK.
- We recommend backing up important data.
- Image data may be damaged in the following cases:
  - –If you remove the "Memory Stick", turn the power off, or detach the battery for replacement when the access lamp is flashing
  - –If you use "Memory Stick"s near static electricity or magnetic fields.
- Prevent metallic objects or your finger from coming into contact with the metal parts of the connecting section.
- Stick its label on the labeling position.
- Do not bend, drop or apply strong shock to "Memory Stick"s.
- Do not disassemble or modify "Memory Stick"s.

— Операции с "Memory Stick" —

Использование "Memory Stick"–Введение

Вы можете записывать и воспроизводить неподвижные изображения на "Memory Stick", прилагаемой к Вашей видеокамере. Вы можете легко выполнять воспроизведение, перезапись или удаление неподвижных изображений. Вы можете выполнять обмен данных изображения с другой аппаратурой, такой как персональный компьютер и т.п., используя адаптер последовательного порта для "Memory Stick" (не прилагается), или адаптер PC-карты для "Memory Stick" (не прилагается).

О формате файлов (JPEG)
Ваша видеокамера сжимает данные изображения в формат JPEG (с расширением .jpg).

Типичное имя файла данных изображения

100-0001:	Имя этого файла появится на экране ЖКД или в видоискателе
Dsc00001.jpg:	Имя этого файла появится на дисплее Вашего персонального компьютера.

Перед использованием "Memory Stick"

- Вы не можете записывать или стирать неподвижные изображения, если лепесток защиты записи на "Memory Stick" установлен в положение LOCK.
- Рекомендуется выполнять копию важных данных.
- Данные изображения могут быть повреждены в следующих случаях:
  - –Если Вы вынули "Memory Stick", выключили питание или отсоединили батарейный блок для замены в то время, когда мигает лампочка доступа.
  - –Если Вы используете "Memory Stick" возле магнитов или магнитных полей.
- Не прикасайтесь металлическими частями или Вашими пальцами к металлическим частям соединительных секций.
- Наклейте этикетку в позиции маркировки.
- Не сгибайте, не роняйте и сильно не трясите "Memory Stick".
- Не разбирайте и не модифицируйте "Memory Stick".

- Do not let "Memory Stick"s get wet.
- Do not use or keep "Memory Stick"s in locations that are:
  - –Extremely hot such as in a car parked in the sun or under the scorching sun
  - –Under direct sunlight
  - –Very humid or subject to corrosive gases
- When you carry or store a"Memory Stick", put it in its case.

Formatting the supplied "Memory Stick"

Formatting with this camcorder is not required. The "Memory Stick" has been formatted in the FAT-format at factory.

"Memory Stick" supplied with your camcorder

- Sample images are recorded in the "Memory Stick" (p. 113). Note that these images will be deleted if you format the "Memory Stick."
- Stick the supplied label on the labeling position to prevent the accidental erasure. As for the labeling position, see the illustration on the previous page.

"Memory Stick"s formatted by a computer

"Memory Stick"s formatted by Windows OS or Macintosh computers do not have a guaranteed compatibility with this camcorder.

Notes on image data compatibility

- Image data files recorded on "Memory Stick"s by your camcorder conform with the Design Rules for Camera File Systems universal standard established by the JEIDA (Japan Electronic Industry Development Association). You cannot play back on your camcorder still images recorded on other equipment (DCR-TRV890E/TRV900/TRV900E or DSC-D700/D770) that does not conform with this universal standard. (These models are not sold in some areas.)
- If you cannot use the "Memory Stick" that has been used on other equipment, format the "Memory Stick" on your camcorder following the steps on page 88. Note that all images on the "Memory Stick" will be deleted if you format it.

"Memory Stick" and are trademarks of Sony Corporation.

- Не допускайте, чтобы "Memory Stick" становились влажными.
- Не используйте и не храните "Memory Stick" в местах:
  - –Чрезмерно жарких, например, в припаркованном под солнцем автомобиле или под палящим солнцем.
  - –Под прямым солнечным светом
  - –В местах очень влажных или содержащих коррозионные газы
- При переноске или хранении "Memory Stick" положите ее в футляр.

Форматирование прилагаемой "Memory Stick"

Форматирование на данной видеокамере не требуется. "Memory Stick" уже отформатирована в формате FAT на предприятии-изготовителе.

"Memory Stick", прилагаемая к Вашей видеокамере

- На "Memory Stick" записаны образцы изображений (стр. 113). Имейте в виду, что эти изображения будут удалены, если Вы отформатируете "Memory Stick".
- Наклейте прилагаемую этикетку в позиции маркировки для предотвращения случайного стирания. Что касается позиции маркировки, см. рисунок на предыдущей странице.

"Memory Stick", отформатированная на компьютере

"Memory Stick", отформатированная в операционной системе Windows или Macintosh, может оказаться не совместимой с данной видеокамерой.

Примечания по совместимости данных изображения

- Файлы данных изображения, записанные на "Memory Stick" с помощью данной видеокамеры, отвечают проектным требованиям для универсального стандарта файловых систем видеокамеры, разработанного JEIDA (японской ассоциацией электронной промышленности). Вы не можете воспроизводить на Вашей видеокамере неподвижные изображения, записанные на другой аппаратуре (DCR-TRV890E/TRV900/TRV900E или DCS-D700/D770), которые не соответствуют этому универсальному стандарту. (Эти модели не продаются в некоторых регионах.)
- Если Вы не можете использовать "Memory Stick", которая использовалась на другой аппаратуре, отформатируйте "Memory Stick" на Вашей видеокамере, следуя инструкции на стр. 94. Имейте в виду, что все изображения на "Memory Stick" буду удалены, если Вы отформатируете ее.

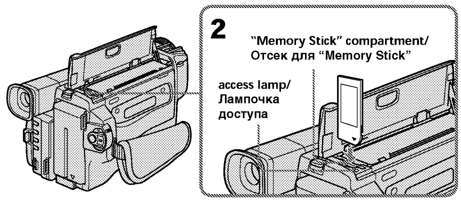
"Memory Stick" и являются фирменными знаками Sony Corporation.

Inserting "Memory Stick"

(1) Open the lid of the cassette compartment.
(2) Insert the "Memory Stick" with the ▲ mark facing toward the "Memory Stick" compartment as illustrated until it clicks.
(3) Close the lid of the cassette compartment.

Установка "Memory Stick"

(1) Откройте крышку кассетного отсека.
(2) Вставьте "Memory Stick", так чтобы знак ▲ был обращен в сторону отсека для "Memory Stick", как показано на рисунке, пока не раздастся щелчок.
(3) Закройте крышку кассетного отсека.


2
"Memory Stick" compartment/ Отсек для "Memory Stick"
access lamp/ Лампочка доступа

To eject the "Memory Stick"

Open the lid of the cassette compartment, then press the "Memory Stick" once lightly. The "Memory Stick" pops up.

When the access lamp is lit or flashing
Do not shake or strike your camcorder. Do not turn the power off , eject the "Memory Stick" or remove the battery pack. Otherwise, the image data breakdown may occur.

Для извлечения "Memory Stick"

Откройте крышку кассетного отсека, затем слегка нажмите "Memory Stick" один раз. "Memory Stick" выйдет из отсека.

Если лампочка доступа горит или мигает
Не трясите и не стучите по Вашей видеокамере. Не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Selecting image quality mode

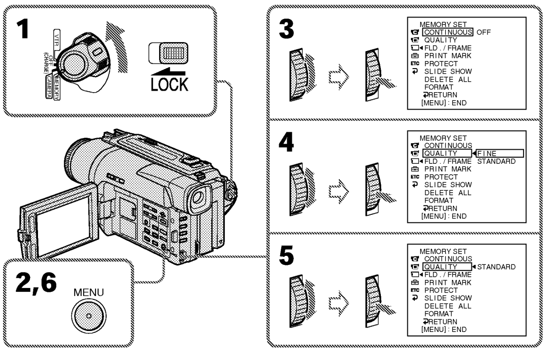
You can select image quality mode in still image recording. Default setting is FINE.

(1) Set the POWER switch to VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY. Make sure that the LOCK is set to the right (unlock) position.
(2) Press MENU to make the menu display appear.
(3) Turn the SEL/PUSH EXEC dial to select 🎞, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select QUALITY, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select the desired image quality, then press the dial.
(6) Press MENU to erase the menu display.

Выбор режима качества изображения

Вы можете выбрать режим качества изображения при записи неподвижного изображения. Установкой по умолчанию является FINE.

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) или MEMORY. Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(3) Поверните диск SEL/PUSH EXEC для выбора установки 🎞, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора установки QUALITY, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора подходящего качества изображения, а затем нажмите диск.
(6) Нажмите кнопку MENU для стирания индикации меню.



Note
In some cases, changing the image quality mode may not affect the image quality, depending on the types of images you are shooting.

Примечание
В некоторых случаях, изменение режима качества изображения может отразиться на качестве изображений, в зависимости от типов изображений, которые Вы снимаете.

Using "Memory Stick" -introduction

Image quality settings

Setting	Meaning
FINE (FINE)	Use this mode when you want to record high quality images. The image is compressed to about 1/6.
STANDARD (STD)	This is the standard image quality. The image is compressed to about 1/10.

Differences in image quality mode
Recorded images are compressed in JPEG format before being stored into memory. The memory capacity allotted to each image varies depending on the selected image quality mode. Details are shown in the table below. (The number of pixels is 640 × 480, regardless of image quality mode. The data size before compression is about 600 KB.)

Image quality mode	Memory capacity
FINE	About 100 KB
STANDARD	About 60 KB

Approximate number of images you can record on a "Memory Stick"
The approximate number of images you can record on a "Memory Stick" formatted using this camcorder varies depending on which image quality mode you select and the complexity of the subject.

Maximum number of images you can record on a "Memory Stick"

Использование "Memory Stick" –Введение

Установки качества изображения

Установка	Значение
FINE (FINE)	Используйте этот режим, если Вы хотите записать высококачественные изображения. Изображение сжимается примерно до 1/6.
STANDARD (STD)	Это соответствует стандартному качеству изображения. Изображение сжимается примерно до 1/10.

Отличия в режиме качества изображения
Записанные изображения сжимаются в формат JPEG перед сохранением в памяти. Емкость памяти, выделенная для каждого изображения, изменяется в зависимости от выбранного режима качества изображения. Подробности содержатся в приведенной ниже таблице. (Количество элементов изображения равно 640 × 480, независимо от режима качества изображения. Размер перед сжатием составляет около 600 Кб.)

Режим качества изображения	Емкость памяти
FINE	Около 100 Кб
STANDARD	Около 60 Кб

Приблизительное количество изображений, которое Вы можете записать на "Memory Stick"
Приблизительное количество изображений, которое Вы можете записать на "Memory Stick", отформатированную с помощью данной видеокамеры, изменяется в зависимости от выбранного Вами режима качества изображения и сложности объекта.

Максимальное количество изображений, которое Вы можете записать на "Memory Stick".

Setting	4MB	8MB	16MB	32MB	64MB
FINE	40	81	164	329	659
STANDARD	60	122	246	494	988

Note on the image quality mode indicator
This is only displayed during recording.

Примечание по индикатору режима качества изображения
Этот индикатор отображается только во время записи.

Recording still images on "Memory Stick" - Memory Photo recording

You can select the FIELD or FRAME mode in still image recording. Your camcorder compensates for camera-shake when recording moving subjects in the FIELD mode. Your camcorder records still images in high quality in the FRAME mode. Select the FIELD or FRAME in the menu settings (p. 85).

Before operation
Insert a "Memory Stick" into your camcorder.

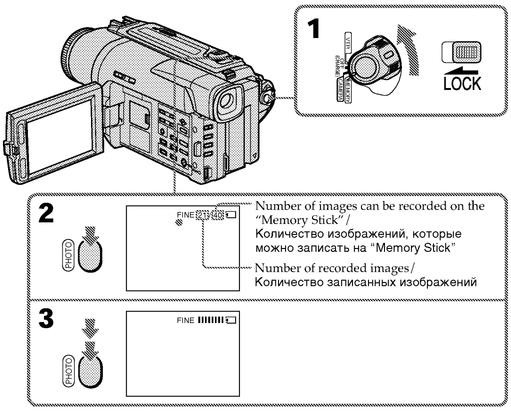
(1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
(2) Keep pressing PHOTO lightly. The green ● mark stops flashing, then lights up. The brightness of the image and focus are adjusted being targeted for the middle of the image and are fixed. Recording does not start yet.
(3) Press PHOTO deeper. The image displayed on the screen will be recorded on the "Memory Stick". Recording is complete when the bar scroll indicator disappears.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Вы можете выбрать режим FIELD или FRAME при записи неподвижных изображений. Ваша видеокамера компенсирует подрагивания при записи движущихся объектов в режиме FIELD. Ваша видеокамера записывает неподвижные изображения с высоким качеством в режиме FRAME. Выберите опцию FIELD или FRAME в установках меню (стр. 85).

Перед началом работы
Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY. Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Держите слегка нажатой кнопку PHOTO. Зеленый знак ● прекратит мигать и будет высвечиваться постоянно. Яркость изображения и фокусное расстояние будут отрегулированы при наводке на середину изображения и будут зафиксированы при этом.
(3) Нажмите кнопку PHOTO сильнее. Изображение, отображаемое на экране, будет записано на "Memory Stick". Запись считается завершенной, если исчезнет перемещающийся полосатый индикатор.



Number of images can be recorded on the "Memory Stick"/
Количество изображений, которые можно записать на "Memory Stick"

Number of recorded images/
Количество записанных изображений

Recording still images on "Memory Stick" - Memory Photo recording

Notes
- When recording fast-moving subjects in the FRAME mode, the recorded image blurry.
- When recording in the FRAME mode, your camcorder may not correct camera-shake. We recommend that you shoot objects with a tripod.
- When recording still images at step 2 with the PHOTO button pressed lightly, the image momentarily flickers. This is not a malfunction.
- Before you shoot in autofocus mode, check that the subject is in sharp focus.
- The brightness of the picture and focus are adjusted on the center portion of the image.

When the POWER switch is set to MEMORY
The following functions do not work:
wide mode, digital effect, picture effect, title, low lux mode of PROGRAM AE.

When you are recording a still image
You can neither turn off the power nor press PHOTO.

When you press the PHOTO button on the Remote Commander
Your camcorder immediately records the image that is on the screen when you press the button.

Recording images continuously

You can record still images continuously.

Multi screen mode
You can record 9 still images continuously on a single page.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Примечания
- При записи быстро движущихся объектов в режиме FRAME, изображение будет размытым.
- При записи в режиме FRAME функция компенсации подрагивания Вашей видеокамеры может работать неправильно. Рекомендуется выполнять съемку объектов с помощью треноги.
- Во время записи неподвижных изображений в пункте 2 с нажатой кнопкой PHOTO, изображение будет временно мерцать. Это не является неисправностью.
- Перед съемкой в режиме автоматической фокусировки проверьте, чтобы объект был четко сфокусирован.
- Яркость объекта и фокусное расстояние будут отрегулированы по центру изображения.

Если переключатель POWER установлен в положение MEMORY
Следующие функции не будут работать: Широкоэкранный режим, цифровой эффект, эффект изображения, титр, режим низкой освещенности PROGRAM AE.

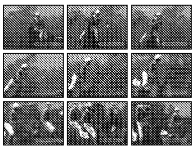
Если Вы записываете неподвижное изображение
Вы не можете ни выключить питание, ни нажать кнопку PHOTO.

Если Вы нажмете PHOTO на пульте дистанционного управления
Ваша видеокамера тотчас же запишет изображение, которое будет на экране при нажатии кнопки.

Запись изображений непрерывно

Вы можете записывать неподвижные изображения непрерывно.

Многоэкранный режим
Вы можете записывать 9 неподвижных изображений непрерывно на одной странице.

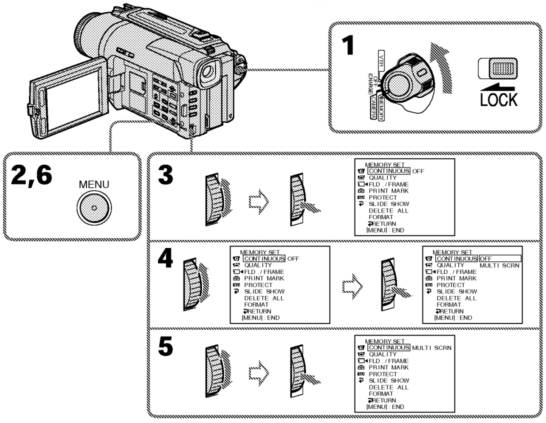


Recording still images on "Memory Stick" - Memory Photo recording

(1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
(2) Press MENU to make the menu display appear.
(3) Turn the SEL/PUSH EXEC dial to select ▣, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select CONTINUOUS, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select the desired setting, then press the dial.
(6) Press MENU to erase the menu display.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

(1) Установите переключатель POWER в положение MEMORY. Убедитесь, что переключатель LOCK установлен в правое (незафиксированное положение).
(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(3) Поверните диск SEL/PUSH EXEC для выбора установки ▣, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора установки CONTINUOUS, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора желаемой установки, а затем нажмите диск.
(6) Нажмите кнопку MENU для стирания индикации меню.



If the capacity of the "Memory Stick" becomes full
"⊠ FULL" appears on the LCD screen or in the viewfinder, and you cannot record still images on the "Memory Stick."

Если емкость "Memory Stick" переполнена
На экране или в видоискателе появится индикация "⊠ FULL", и Вы не сможете записывать неподвижные изображения на эту "Memory Stick".

Recording still images on "Memory Stick" – Memory Photo recording

Continuous shooting settings

Setting	Meaning (indicator on the screen)
OFF	Your camcorder shoots one image at a time. (no indicator)
MULTI SCRN	Your camcorder shoots 9 still images at about 0.5 sec intervals and displays the images on a single page divided into 9 boxes. (▦)

Note on using the video flash light (not supplied)
The video flash light does not work in the multi screen mode if you install it to the accessory shoe.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Установки непрерывной съемки

Установка	Значение (индикатор на экране)
OFF	Ваша видеокамера снимает одно изображение за раз (без индикатора).
MULTI SCRN	Ваша видеокамера снимает 9 неподвижных изображений примерно с 0,5-секундными интервалами и отображает изображения на одной странице, разделенной на 9 прямоугольников. (▦)

Примечание по использованию видеовспышки (не прилагается)
Видеовспышка не работает в непрерывном или многоэкранном режиме, если Вы установили ее в держатель для вспомогательных принадлежностей.

Recording still images on "Memory Stick" – Memory Photo recording

Self-timer memory photo recording

You can record still images on "Memory Stick"s with the self-timer. This mode is useful when you want to record yourself.
You can use the Remote Commander for this operation.

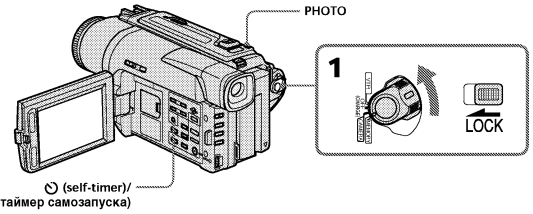
(1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
(2) Press ⏲ (self-timer). The ⏲ (self-timer) indicator appears on the LCD screen or in the viewfinder.
(3) Press PHOTO firmly.
Self-timer starts counting down from 10 with a beep sound. In the last two seconds of the countdown, the beep sound gets faster, then recording starts automatically.

Запись неподвижных изображений на "Memory Stick" – Фотосъемка с сохранением в памяти

Фотосъемка в память по таймеру самозапуска

Вы можете записывать неподвижные изображения на "Memory Stick" с помощью таймера самозапуска. Этот режим является полезным, если Вы хотите снять самого себя.
Для этой операции Вы можете использовать пульт дистанционного управления.

(1) Установите переключатель POWER в положение MEMORY. Убедитесь, что переключатель LOCK установлен в правом (незафиксированном) положении.
(2) Нажмите кнопку ⏲ (таймер самозапуска). На экране ЖКД или в видоискателе появится индикатор ⏲ (самозапуска).
(3) Нажмите кнопку PHOTO сильнее.
Таймер самозапуска начнет обратный отсчет от 10 с зуммерным сигналом. В последние две секунды обратного отсчета зуммерный сигнал будет звучать чаще, после автоматически начнется запись.



To cancel self-timer recording

Press ⏲ (self-timer) so that the ⏲ indicator disappears from the LCD or viewfinder screen while your camcorder is in the standby mode.
You cannot cancel self-timer recording with the Remote Commander.

Note
The self-timer recording mode is automatically canceled when:
- Self-timer recording is finished.
- The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

Для отмены записи по таймеру самозапуска

Нажмите кнопку ⏲ (таймер самозапуска), так чтобы индикатор ⏲ исчез с экрана ЖКД или видоискателя в то время, когда Ваша видеокамера находится в режиме ожидания.
С помощью пульта дистанционного управления Вы не можете отменить запись по таймеру самозапуска.

Примечание
Режим записи по таймеру самозапуска будет автоматически отменен, если:
- Запись по таймеру самозапуска закончилась.
- Переключатель POWER установлен в положение OFF (CHARGE), VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

Superimposing a still image in the "Memory Stick" on a moving image - MEMORY MIX

You can superimpose a still image you have recorded on the "Memory Stick" on top of the moving image you are recording.

M. CHROM (Memory chroma key)
You can swap a blue area of a still image such as an illustration or a frame with a moving image.

M. LUMI (Memory luminance key)
You can swap a brighter area of a still image such as a handwritten illustlation or title with a moving image. Record a title on the "Memory Stick" before a trip or event for convenience.

C. CHROM (Camera chroma key)
You can superimpose a moving image on top of a still image such as an image can be used as background. Shoot the subject against a blue background. The blue area of the moving image will be swapped with a still image.

M. OVERLAP (Memory overlap)
You can make a moving image fade in on top of a still image.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

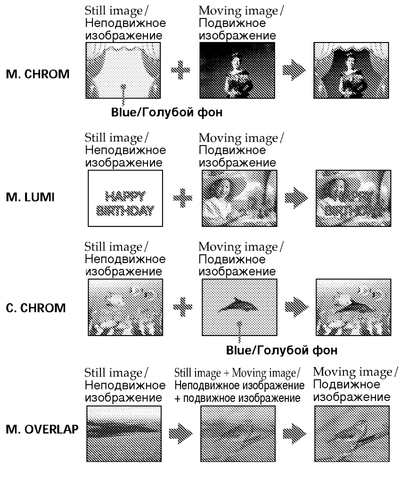
Вы можете наложить неподвижное изображение, записанное на "Memory Stick", на записываемое подвижное изображение.

M. CHROM (кнопка цветности памяти)
Вы можете менять местами синюю часть неподвижного изображения с подвижным изображением.

M. LUMI (кнопка яркости памяти)
Вы можете менять местами более яркую часть неподвижного изображения с подвижным изображением. Запишите титр на "Memory Stick" перед путешествием или каким-либо событием для удобства.

C. CHROM (кнопка цветности видеокамеры)
Вы можете наложить движущееся изображение поверх неподвижного изображения, которое может служить фоном. Например, Вы можете выполнить съемку объекта на голубом фоне. Голубая часть подвижного изображения поменяется местами с неподвижным изображением.

M. OVERLAP (перекрытие памяти)
Вы можете сделать плавный ввод движущегося изображения поверх непеодвижного изображения.


Still image/ Неподвижное изображение
Moving image/ Подвижное изображение
M. CHROM
Blue/Голубой фон
Still image/ Неподвижное изображение
Moving image/ Подвижное изображение
M. LUMI
HAPPY BIRTHDAY
Still image/ Неподвижное изображение
Moving image/ Подвижное изображение
C. CHROM
Blue/Голубой фон
Still image/ Неподвижное изображение
Still image + Moving image/ Неподвижное изображение + подвижное изображение
Moving image/ Подвижное изображение
M. OVERLAP

Superimposing a still image in the "Memory Stick" on a moving image - MEMORY MIX

Before operation
Insert a Hi8 Hi8/Digital8 D tape for recording and a "Memory Stick" into your camcorder.

(1) Set the POWER switch to CAMERA.
(2) Press MEMORY MIX in the standby mode.
The last recorded or last composed image appears on the lower part of the screen as a thumbnail image.
(3) Press MEMORY+/– to select the still image you want to superimpose.
To see the previous image, press MEMORY –.
To see the next image, press MEMORY+.
(4) Turn the SEL/PUSH EXEC dial to select the desired mode.
The mode changes as follows:
M. CHROM ←→ M. LUMI ←→ C. CHROM ←→ M. OVERLAP
(5) Press the SEL/PUSH EXEC dial.
The still image is superimposed on the moving image.
(6) Turn the SEL/PUSH EXEC dial to adjust the effect.

M. CHROM –The colour (blue) scheme of the area in the still image which is to be swapped with a moving image
M. LUMI –The colour (bright) scheme of the area in the still image which is to be swapped with a moving image
C. CHROM –The colour (blue) scheme of the area in the moving image which is to be swapped with a still image
M. OVERLAP– No adjustment necessary

The fewer bars there are on the screen, the stronger the effect.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

Перед началом работы
Вставьте ленту Hi8 Hi8/Digital8 D для записи и "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение CAMERA.
(2) Нажмите кнопку MEMORY MIX в режиме ожидания.
Последнее записанное или скомпонованное изображение появится в нижней части экрана в виде крохотного изображения.
(3) Нажмите кнопку MEMORY+/– для выбора неподвижного изображения, которое Вы хотите наложить на подвижное.
Для просмотра предыдущего изображения нажмите кнопку MEMORY –.
Для просмотра следующего изображения нажмите кнопку MEMORY+.
(4) Поверните диск SEL/PUSH EXEC для выбора нужного режима.
Режим будет изменяться следующим образом:
M. CHROM ←→ M. LUMI ←→ C. CHROM ←→ M. OVERLAP
(5) Нажмите диск SEL/PUSH EXEC.
Неподвижное изображение будет наложено на подвижное.
(6) Поверните диск SEL/PUSH EXEC для регулировки эффекта.

M. CHROM – Цветовая гамма (голубая) участка в неподвижном изображении, который будет заменен на подвижное изображение
M. LUMI – Цветовая гамма (яркая) участка в неподвижном изображении, который будет заменен на подвижное изображение
C. CHROM – Цветовая гамма (голубая) участка в неподвижном изображении, который будет заменен на подвижное изображение
M. OVERLAP– Не требуется никаких регулировок

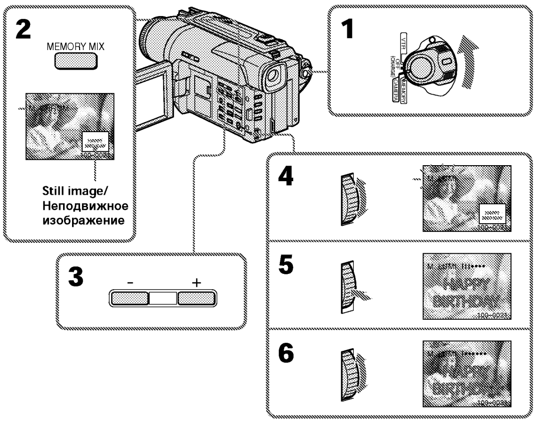
Чем меньше полос на экране, тем сильнее эффект.

Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

(7) Press START/STOP to start recording.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

(7) Нажмите кнопку START/STOP для начала записи.



To change the still image to superimpose

Do either of the following:
- Press MEMORY+/– before step 7.
- Press the SEL/PUSH EXEC dial before step 7, and repeat the procedure from step 4.

To change the mode setting

Press the SEL/PUSH EXEC dial before step 7, and repeat the procedure from step 4.

To cancel M. CHROM/M. LUMI/ C. CHROM/M.OVERLAP

Press MEMORY MIX.

Для изменения неподвижного изображения для наложения

Выполните следующее:
- Нажмите кнопку MEMORY+/– перед пунктом 7.
- Нажмите диск SEL/PUSH EXEC перед пунктом 7 и повторите процедуру, начиная с пункта 4.

Для изменения установки режима

Нажмите диск SEL/PUSH EXEC перед пунктом 7 и повторите процедуру с пункта 4.

Для отмены установки M. CHROM/M. LUMI/C. CHROM/M.OVERLAP

Нажмите кнопку MEMORY MIX.

Superimposing a still image in the "Memory Stick" on a moving image – MEMORY MIX

During recording
You cannot change the mode setting.

The "Memory Stick" supplied with your camcorder stores 20 images
- For M. CHROM: 18 images (such as a frame) 100-0001~100-0018
- For C. CHROM: 2 images (such as a background) 100-0019~100-0020

Sample images
Sample images stored in the "Memory Stick" supplied with your camcorder are protected (p. 128).

When you select M.OVERLAP
You cannot change the still image or the mode setting.

Наложение неподвижного изображения из "Memory Stick" на подвижное изображение – MEMORY MIX

Во время записи
Вы не можете изменить установку режима.

"Memory Stick", прилагаемая к Вашей видеокамере, вмещает 20 изображений
- Для M. CHROM: 18 изображений (например, кадр) 100-0001~100-0018
- Для C. CHROM: два изображения (например, фон) 100-0019~100-0020

Образцы изображений
Образцы изображений на "Memory Stick", прилагаемой к Вашей видеокамере, защищены от стирания (стр. 128).

Если Вы выберите M. OVERLAP
Вы не можете изменять неподвижное изображение или установку режима.

Recording an image from a tape as a still image

Your camcorder can read moving image data recorded on a tape in the Digital8 Ð system, and record it as a still image on a "Memory Stick". Your camcorder can also take in moving image data through the input connector and record it as a still image on a "Memory Stick".

Before operation
Insert a tape recorded in the Digital8 Ð system and a "Memory Stick" into your camcorder.

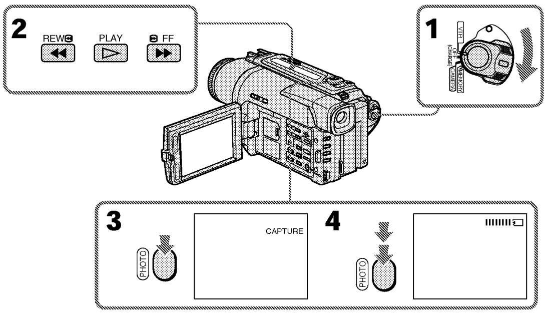
(1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
(2) Press ►. The image recorded on the tape is played back.
(3) Keep pressing PHOTO lightly until the image from the tape freezes. CAPTURE appears on the LCD screen or in the viewfinder. Recording does not start yet.
(4) Press PHOTO deeper. The image displayed on the screen will be recorded on the "Memory Stick". Recording is complete when the bar scroll indicator disappears.

Запись изображения с ленты как неподвижного изображения

Ваша видеокамера может считывать данные подвижного изображения, записанные на ленте в цифровой системе Digital8 Ð, и записывать его как неподвижное изображение на "Memory Stick". Ваше видеокамера также позволяет вводить данные подвижного изображения через разъем входного сигнала и записывать их как неподвижное изображение на "Memory Stick".

Перед началом работы
Вставьте ленту, записанную в системе Digital8 Ð и "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/DCR-TRV520E).
(2) Нажмите кнопку ►. Начнется воспроизведение изображения, записанного на ленте.
(3) Держите слегка нажатой кнопку PHOTO до тех пор, пока изображение с ленты не будет "заморожено". На экране ЖКД или в видоискателе появится индикация "CAPTURE". Запись пока не начнется.
(4) Нажмите кнопку PHOTO сильнее. Изображение, отображаемое на экране, будет записано на "Memory Stick". Запись считается завершенной, если исчезнет перемещающийся полосатый индикатор.



Recording an image from a tape as a still image

When the access lamp is lit or flashing
Never shake or strike the unit. Also do not turn the power off , eject the "Memory Stick" or remove the battery pack. Otherwise, an image data breakdown may occur.

If ⛝ appears on the LCD screen or in the viewfinder
The inserted "Memory Stick" is imcompartible with your camcorder because its format does not comform with your camcorder. Check the format of the "Memory Stick".

If you press PHOTO lightly in the playback mode
Your camcorder stops momentarily.

Sound recorded on a tape
You cannot record the audio from a tape.

Titles superimposed on tapes
You cannot record the titles on the "Memory Stick." However, you can record titles which have already been recorded on tapes.

When you press PHOTO on the Remote Commander
Your camcorder immediately records the image that is on the screen when you press the button.

Запись изображения с ленты как неподвижного изображения

Если лампочка доступа горит или мигает
Не трясите и не стучите по Вашей видеокамере. Также не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Если на экране ЖКД или в видоискателе появится индикация ⛝
Вставлена "Memory Stick", которая несовместима с Вашей видеокамерой, поскольку ее формат не соответствует видеокамере. Проверьте формат "Memory Stick".

Если в режиме воспроизведения слегка нажать кнопку PHOTO
Ваша видеокамера на мгновение остановится.

Звук, записанный на ленту
Вы не можете записывать звук с ленты.

Титры, наложенные на ленты
Вы можете записывать титры на "Memory Stick". Однако, Вы можете записывать титры, которые уже записаны на лентах.

Если Вы нажмете кнопку PHOTO на пульте дистанционного управления
Ваша видеокамера тотчас же запишет изображение, отображаемое на экране, если Вы нажмете эту кнопку.

Recording an image from a tape as a still image

Recording a still image from other equipment

– DCR-TRV620E only

(1) Set the POWER switch to VTR and set DISPLAY to LCD in the menu settings.
(2) Play back the recorded tape, or turn the TV on to see the desired programme.
The image from TV or VCR appears on the LCD or in the viewfinder.
(3) Follow the steps 3 and 4 on page 114.

Using the A/V connecting cable

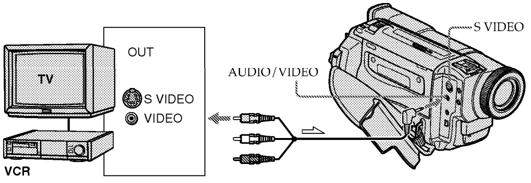
Запись изображения с ленты как неподвижного изображения

Запись неподвижного изображения с другого аппарата

– Только DCR-TRV620E

(1) Установите переключатель POWER в положение VTR и установите опцию DISPLAY в положение LCD в установках меню.
(2) Начните воспроизведение записанной ленты или включите телевизор для просмотра нужной программы.
На экране ЖКД или в видоискателе появится изображение от телевизора или КВМ.
(3) Выполните действия пунктов 3 и 4 на стр. 114.

Использование соединительного кабеля аудио/видео



: Signal flow / Передача сигнала

Connect the yellow plug of the A/V connecting cable to the video jack on the VCR or the TV.

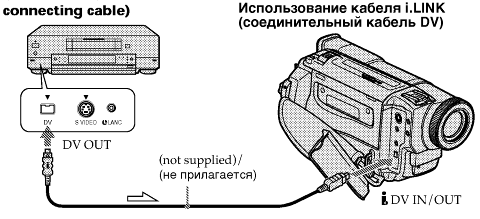
If your TV or VCR has an S video jack
Connect using an S video cable (not supplied) to obtain high-quality pictures.
With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.
Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the TV or VCR.

Using the i.LINK cable (the DV connecting cable)

Подсоедините желтый штекер соединительного кабеля аудио/видео к видеогнезду на КВМ или телевизоре.

Если в Вашем телевизоре или КВМ имеется гнездо S видео
Выполните подсоединение с помощью кабеля S видео (не прилагается) для получения высококачественных изображений.
При данном подсоединении Вам не нужно подсоединять желтый (видео) штекер соединительного кабеля аудио/видео.
Подсоедините кабель S видео (не прилагается) к гнездам S видео на Вашей видеокамере и КВМ.

Использование кабеля i.LINK (соединительный кабель DV)



: Signal flow / Передача сигнала

Copying still images from a tape – Photo save

Using the search function, you can automatically take in only still images from tapes recorded in the Digital8 system and record them on a"Memory Stick" in sequence.

Before operation
- Insert a tape recorded in the Digital8 system and rewind the tape.
- Insert a "Memory Stick" into your camcorder.

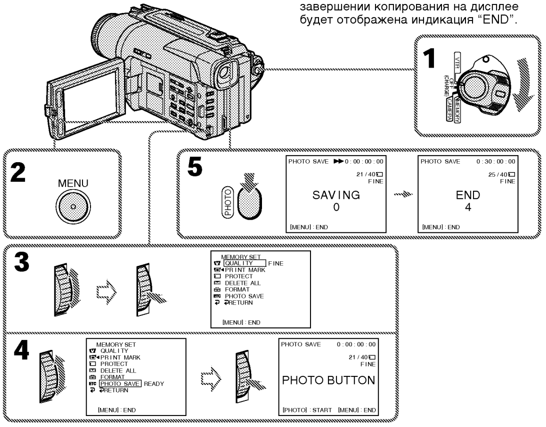
(1) Set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
(2) Press MENU to make the menu display appear.
(3) Turn the SEL/PUSH EXEC dial to select ▭, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select PHOTO SAVE, then press the dial. "PHOTO BUTTON" appears on the LCD screen or in the viewfinder.
(5) Press PHOTO firmly. The still image from the tape is recorded on the "Memory Stick". The number of still images copied is displayed. END is displayed when copying is completed.

Копирование неподвижных изображений с ленты – Сохранение фотоснимков в памяти

Используя функцию поиска, Вы можете автоматически выполнять фотоснимки только неподвижных изображений с лент, записанных в системе Digital8, и записывать их на "Memory Stick" в последовательности.

Перед началом работы
- Вставьте ленту, записанную в системе Digital8 и перемотайте ленту.
- Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).
(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(3) Поверните диск SEL/PUSH EXEC для выбора установки ▭, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора установки PHOTO SAVE, а затем нажмите диск. На экране ЖКД или в видоискателе появится индикация "PHOTO BUTTON".
(5) Нажмите кнопку PHOTO сильно. Неподвижное изображение с ленты будет записано на "Memory Stick". Будет отображено количество неподвижных скопированных изображений. По завершении копирования на дисплее будет отображена индикация "END".



Copying still images from a tape – Photo save

To stop copying
Press MENU to stop copying.

When the memory of the "Memory Stick" is full
MEMORY FULL appears on the LCD screen, and the copying stops. Insert another "Memory Stick" and repeat the procedure from step 2.

When the access lamp is lit or flashing
Never shake or strike your camcorder. As well do not turn the power off, eject the "Memory Stick" or remove the battery pack. Otherwise, the image data breakdown may occur.

To record all the images recorded on the tape
Rewind the tape all the way back and start copying.

If the write-protect tab on the "Memory Stick" is set to LOCK
NOT READY appears when you select the item in the menu settings.

When you change the "Memory Stick" in the middle of copying
Your camcorder resumes copying from the last image recorded on the previous "Memory Stick".

Копирование неподвижных изображений с ленты – Сохранение фотоснимков в памяти

Для остановки копирования
Нажмите кнопку MENU для остановки копирования.

В случае переполнения памяти "Memory Stick"
На экране ЖКД появится индикация MEMORY FULL, и копирование остановится. Вставьте другую "Memory Stick" и повторите процедуру, начиная с пункта 2.

Если лампочка доступа горит или мигает
Никогда не трясите и не стучите по Вашей видеокамере. Также, не выключайте питание, не извлекайте "Memory Stick" из отсека и не снимайте батарейный блок. В противном случае данные изображения могут быть повреждены.

Для записи всех изображений, записанных на ленте
Перемотайте ленту до конца назад и начните копирование.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK
Появится индикация индикация NOT READY, если Вы выберите пункт в установках меню.

Если Вы замените "Memory Stick" в середине копирования
Ваша видеокамера возобновит копирование, начиная с последнего изображения, записанного на предыдущей "Memory Stick".

Viewing a still image – Memory Photo playback

You can play back still images recorded on a"Memory Stick". You can also play back 6 images at a time by selecting the index screen.

Before operation
Insert a"Memory Stick" into your camcorder.

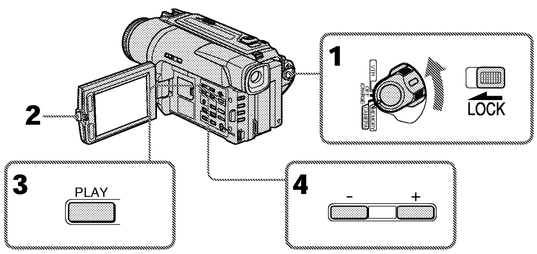
(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
(2) Open the LCD panel while pressing OPEN.
(3) Press MEMORY PLAY. The last recorded image is displayed.
(4) Press MEMORY +/– to select the desired still image. To see the previous image, press MEMORY –. To see the next image, press MEMORY +.

Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Вы можете воспроизводить неподвижные изображения, записанные на "Memory Stick". Вы можете также воспроизводить 6 изображений одновременно путем выбора индексного экрана.

Перед началом работы
Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Нажав кнопку OPEN, откройте панель ЖКД.
(3) Нажмите кнопку MEMORY PLAY. Будет отбражено последнее записанное изображение.
(4) Нажмите кнопку MEMORY +/– для выбора нужного неподвижного изображения. Для того, чтобы увидеть предыдущее изображение, нажмите кнопку MEMORY –. Для того, чтобы увидеть следующее изображение, нажмите кнопку MEMORY +.



To stop memory photo playback
Press MEMORY PLAY.

Для остановки воспроизведения фотоснимков из памяти
Нажмите кнопку MEMORY PLAY.

Viewing a still image – Memory Photo playback

To play back recorded images on a TV screen

- Connect your camcorder to the TV with the A/V connecting cable supplied with your camcorder before the operation.
- When operating memory photo playback on a TV or the LCD screen, the image quality may appear to have deteriorated. This is not a malfunction. The image data is as good as ever.
- Turn the audio volume of the TV down before operation, or noise (howling) may be output from the TV speakers.

If "⊠ NO FILE" appears on the LCD screen or in the viewfinder
No image is recorded on the "Memory Stick."

Image data modified with personal computers or shot with other equipment
You may not be able to play them back with your camcorder.

Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Для воспроизведения записанных изображений на экране телевизора

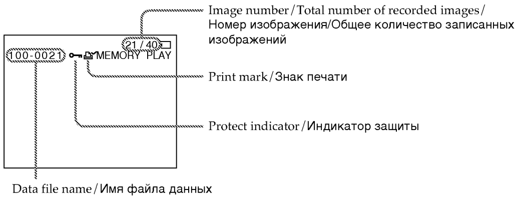
- Перед началам воспроизведения подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео, прилагаемого к Вашей видеокамере.
- При воспроизведении фотоснимков из памяти на экране телевизора или ЖКД, качество изображения может ухудшиться. Это не является неисправностью. Данные изображения находятся в том же состоянии, как и прежде.
- Перед началом воспроизведения уменьшите громкость телевизора вниз, иначе через акустическую систему телевизора может послышаться шум (завывание).

Если на экране ЖКД или в видоискателе появится индикация "⊠ NO FILE"
На "Memory Stick" нет записанных изображений.

Данные изображения, видоизмененные с помощью персонального компьютера или снятые с помощью другой аппаратуры
Вы не сможете воспроизвести их с помощью с помощью Вашей видеокамеры.

Screen indicators during still image playback

Экранные индикаторы во время воспроизведения неподвижных изображений


21 / 40
100-0021
MEMORY PLAY
Image number/Total number of recorded images/
Номер изображения/Общее количество записанных изображений
Print mark/Знак печати
Protect indicator/Индикатор защиты
Data file name/Имя файла данных

Viewing a still image – Memory Photo playback

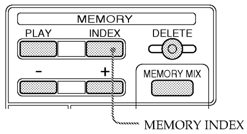
Playing back 6 recorded images at a time (index screen)

You can play back 6 recorded images at a time. This function is especially useful when searching for a particular image.

Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

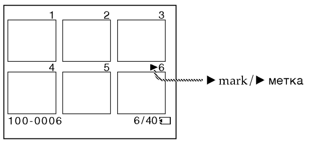
Воспроизведение 6 записанных изображений одновременно (индексный экран)

Вы можете воспроизвести 6 записанных изображений одновременно. Эта функция является особенно полезной при выполнении поиска отдельных изображений.



Press MEMORY INDEX.
A red ▶ mark appears above the image that is displayed before changing to the index screen mode.

Нажмите кнопку MEMORY INDEX.
Красная метка ▶ появится над изображением, которое будет отображаться перед изменением режима индексного экрана.



- To display the following 6 images, keep pressing MEMORY +.
- To display the previous 6 images, keep pressing MEMORY –.

To return to the normal playback screen (single screen)
Press MEMORY +/– to move the ▶ mark to the image you want to display on full screen, then press MEMORY PLAY.

- Для отображения следущих 6 изображений держите нажатой кнопку MEMORY +.
- Для отображения предыдущих 6 изображений держите нажатой кнопку MEMORY –.

Для возврата к экрану обычного воспроизведения (одиночный экран)
Нажимайте кнопку MEMORY +/– для перемещения знака ▶ к изображению, которое Вы хотите отобразить на полный экран, а затем нажмите кнопку MEMORY PLAY.

Viewing a still image – Memory Photo playback

Note
When displaying the index screen, the number appears above each image. This indicates the order in which images are recorded on the "Memory Stick". These numbers are different from the data file names.

Files modified with personal computers
These files may not be displayed on the index screen. Image files shot with other equipment may not be displayed on the index screen either.

Viewing the recorded images using a personal computer

The image data recorded with your camcorder is compressed in the JPEG format. If you use the application software, PictureGear 4.1 Lite supplied with your camcorder, you can see images recorded on the "Memory Stick" on a computer screen. Use the PC serial cable supplied with your camcorder for this operation.

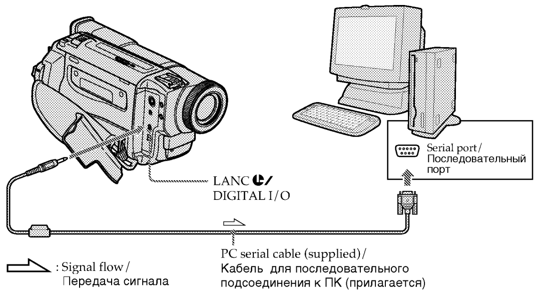
Просмотр неподвижного изображения – Воспроизведение фотоснимков из памяти

Примечание
При отображении индексного экрана над каждым изображением будет появляться номер. Он означает порядок, в котором изображения записаны на "Memory Stick". Эти номера отличаются от имен файлов данных.

Данные изображения, видоизмененные с помощью персонального компьютера
Эти файлы могут быть не отображены на индекном экране. Файлы изображений, снятых с помощью другой аппаратуры, могут не отображаться ни на одном из индексных экранов.

Просмотр записанных изображений с помощью персонального компьютера

Данные изображения, записанные с помощью Вашей видеокамеры, сжимаются до формата JPEG. Если Вы используете прикладное программное обеспечение, PictureGear 4.1 Lite, прилагаемое к Вашей видеокамере, Вы можете увидеть изображения, записанные на "Memory Stick", на экране компьютера. Используйте шнур для последовательного подсоединения к ПК, прилагаемый к Вашей видеокамере, для этой операции.


Serial port/
Последовательный порт
LANC ⏻/
DIGITAL I/O
PC serial cable (supplied)/
Кабель для последовательного подсоединения к ПК (прилагается)
: Signal flow/
Передача сигнала

Copying the image recorded on "Memory Stick" to tapes

– DCR-TRV620E only
You can copy still images or titles recorded on "Memory Stick"s and record them to Hi8 **Hi8**/Digital8 **D8** tapes.

Before operation
Insert a Hi8 **Hi8**/Digital8 **D8** tape for recording and a "Memory Stick" into your camcorder.

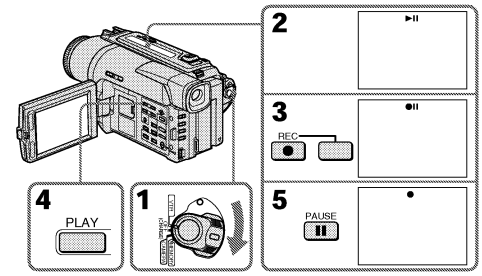
(1) Set the POWER switch to VTR.
(2) Using the video control buttons, search a point where you want to record the desired still image. Set the Hi8 **Hi8**/Digital8 **D8** tape to playback pause mode.
(3) Press ● REC and the button on its right simultaneously on your camcorder. The Hi8 **Hi8**/Digital8 **D8** tape is set to the recording pause mode.
(4) Press MEMORY PLAY to play back the still image you want to copy (p. 119).
(5) Press **II** to start recording and press **II** again to stop.
(6) If you have more to copy, repeat steps 4 and 5.

Копирование изображений, записанных на "Memory Stick", на ленты

– Только DCR-TRV620E
Вы можете копировать неподвижные изображения или титры, записанные на "Memory Stick", и записывать их на ленты Hi8 **Hi8**/Digital8 **D8**.

Перед началом работы
Вставьте ленту Hi8 **Hi8**/Digital8 **D8** для записи и "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение VTR.
(2) Используя кнопки видеоконтроля, найдите точку, где Вы хотите записать нужное неподвижное изображение. Установите ленту Hi8 **Hi8**/Digital8 **D8** в режим паузы воспроизведения.
(3) Нажмите одновременно кнопку ● REC и кнопку справа от нее на Вашей видеокамере. Лента Hi8 **Hi8**/Digital8 **D8** будет установлена в режим паузы воспроизведения.
(4) Нажмите кнопку MEMORY PLAY для воспроизведения неподвижного изображения, которое Вы хотите скопировать (стр. 119).
(5) Нажмите кнопку **II** для начала записи и нажмите кнопку **II** еще раз для остановки.
(6) Если Вы хотите продолжить копирование, повторите действия пунктов 4 и 5.



To stop copying in the middle
Press ■.

Для остановки копирования посредине
Нажмите кнопку ■.

Copying the image recorded on "Memory Stick" to tapes

During copying
You cannot operate the following buttons: MEMORY PLAY, MEMORY INDEX, MEMORY DELETE, MEMORY MIX, MEMORY +, and MEMORY –.

Note on the index screen
You cannot record the index screen.

If you press the EDITSEARCH buttons during pause mode
Memory playback stops.

Image data modified with personal computers or shot with other equipment
You may not be able to copy them with your camcorder.

If you press the DISPLAY button in the standby or recording mode
You can see memory playback and the file name indicators in addition to the indicators pertinent to Hi8 Hi8/Digital8 D8 tapes, such as the time code indicator.

When copying
You cannot copy the image recorded on "Memory Stick" with titles to tapes.

Копирование изображений, записанных на "Memory Stick", на ленты

Во время копирования
Вы не можете оперировать следующими кнопками:
MEMORY PLAY, MEMORY INDEX, MEMORY DELETE, MEMORY MIX, MEMORY + и MEMORY –.

Примечание по индексному экрану
Вы не можете записать индексный экран.

Если Вы нажмете кнопки EDITSEARCH в режиме паузы
Воспроизведение из памяти остановится.

Данные изображения, преобразованного с помощью персонального компьютера или снятого с помощью другого аппарата
Возможно, Вы не сможете их скопировать с помощью Вашей видеокамеры.

Если Вы нажмете кнопку DISPLAY в режиме ожидания или записи
Вы можете увидеть воспроизведение из памяти и индикаторы названий файлов в дополнение к индикаторам, относящимся к лентам Hi8 Hi8/Digital8 D8, таким как индикатор кода времени.

При копировании
Вы не можете копировать изображения, записанные на "Memory Stick", с титрами на ленты.

Enlarging recorded still images on "Memory Stick"s - Memory PB ZOOM

You can enlarge still images recorded on a "Memory Stick".

Before operation
Insert a "Memory Stick" into your camcorder.

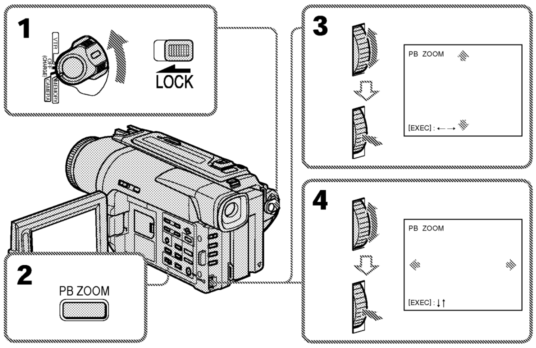
(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).
Make sure that the LOCK is set to the right (unlock) position.
(2) Press PB ZOOM on your camcorder while you are playing back images recorded on "Memory Stick." The still image is enlarged, and ↑↓ appears on the LCD screen or in the viewfinder.
(3) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
↑ : The image moves downwards.
↓ : The image moves upwards.
← → becomes available.
(4) Turn SEL/PUSH EXEC dial to move the enlarged image, then press the dial.
← : The image moves rightward. (Turn the dial downwards.)
→ : The image moves leftward. (Turn the dial upwards.)

Увеличение неподвижных записанных изображений на "Memory Stick" – Память PB ZOOM

Вы можете увеличивать изображения, записанные на "Memory Stick".

Перед операцией
Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY или VTR.
Убедитесь, что переключатель LOCK установлен в правом (не зафиксированном положении).
(2) Нажмите кнопку PB ZOOM на Вашей видеокамере во время воспроизведения изображений, записанных на "Memory Stick". Неподвижное изображение будет увеличено, а на экране ЖКД или в видоискателе появится индикация ↑↓← →.
(3) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
↑ : Изображения перемещается вниз.
↓ : Изображение перемещается вверх.
← → появится на дисплее.
(4) Поверните диск SEL/PUSH EXEC для перемещения увеличенного изображения, а затем нажмите диск.
← : Изображение перемещается вправо. (Поверните диск вниз)
→ : Изображение перемещается влево. (Поверните диск вверх)



To cancel memory PB ZOOM function
Press PB ZOOM.

Pictures processed by PB ZOOM function
Pictures processed by PB ZOOM function are not output through the DV IN/OUT or DV OUT jack.

Для отмены функции PB ZOOM
Нажмите кнопку PB ZOOM.

Изображения, обрабатываемые с помощью функции PB ZOOM
Изображения, обработанные с помощью функции PB ZOOM, не передаются через гнездо DV IN/OUT или DV OUT.

Playing back images in a continuous loop - SLIDE SHOW

You can automatically play back images in sequence. This function is useful especially when checking recorded images or during a presentation.

Before operation
Insert a"Memory Stick" into your camcorder.

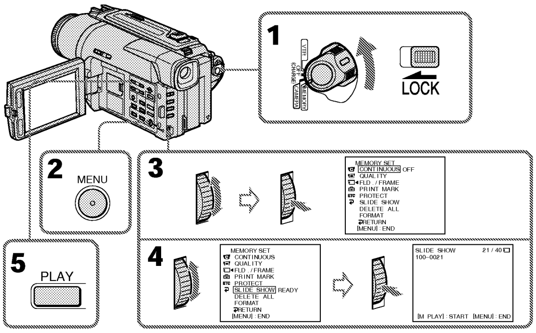
(1) Set the POWER switch to MEMORY. Make sure that the LOCK is set to the right (unlock) position.
(2) Press MENU to make the menu display appear.
(3) Turn the SEL/PUSH EXEC dial to select ▭, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select SLIDE SHOW, then press the dial.
(5) Press MEMORY PLAY. Your camcorder plays back the images recorded on the "Memory Stick" in sequence.

Воспроизведение изображений в непрерывной последовательности по замкнутому циклу – SLIDE SHOW

Вы можете автоматически воспроизводить изображения в непрерывной последовательности. Эта функция является полезной особенно при проверке записанных изображений или во время презентации.

Перед началом работы
Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY. Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(3) Поверните диск SEL/PUSH EXEC для выбора установки ▭, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора установки SLIDE SHOW, а затем нажмите диск.
(5) Нажмите кнопку MEMORY PLAY. Ваша видеокамера будет воспроизводить изображения, записанные на "Memory Stick", в непрерывной последовательности.



Playing back images in a continuous loop - SLIDE SHOW

To stop the slide show
Press MENU.

To pause during a slide show
Press MEMORY PLAY.

To start the slide show from a particular image
Select the desired image using MEMORY +/– buttons before step 2.

To view the recorded images on TV
Connect your camcorder to a TV with the A/V connecting cable supplied with your camcorder before operation.

If you change the "Memory Stick" during operation
The slide show does not operate. If you change the "Memory Stick", be sure to follow the steps again from the beginning.

Воспроизведение изображений в непрерывной последовательности по замкнутому циклу – SLIDE SHOW

Для остановки показа слайдов
Нажмите кнопку MENU.

Для паузы во время показа слайдов
Нажмите кнопку MEMORY PLAY.

Для начала показа слайдов с определенного изображения
Выберите нужное изображение с помощью кнопок MEMORY +/– перед пунктом 2.

Для просмотра записанных изображений на экране телевизора
Перед началом процедуры подсоедините Вашу видеокамеру к телевизору с помощью соединительного кабеля аудио/видео, прилагаемого к Вашей видеокамере.

В случае замены "Memory Stick" во время просмотра
Показ слайдов приостановится. В случае замены "Memory Stick" Вам следует начать действия сначала.

Preventing accidental erasure – Image protection

Предотвращение случайного стирания – Защита изображения

To prevent accidental erasure of important images, you can protect selected images.

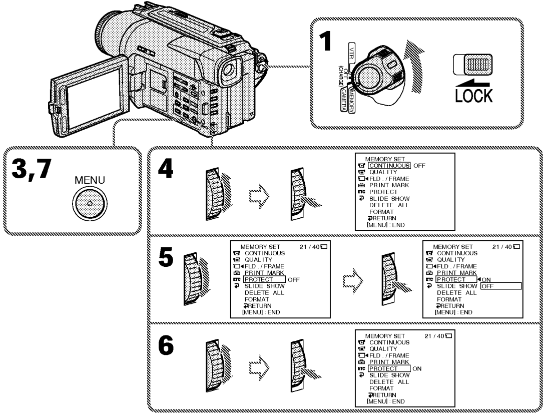
Before operation
Insert a"Memory Stick" into your camcorder.

(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
(2) Play back the image you want to protect (p. 119).
(3) Press MENU to make the menu display appear.
(4) Turn the SEL/PUSH EXEC dial to select ▭, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select PROTECT, then press the dial.
(6) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
(7) Press MENU to erase the menu display. The ⊶ mark is displayed beside the data file name of the protected image.

Для предотвращения случайного стирания важных изображений Вы можете защитить выбранные изображения.

Перед началом работы
Вставьте “Memory Stick” в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Воспроизведите изображение, которое Вы хотите защитить (стр. 119).
(3) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(4) Поверните диск SEL/PUSH EXEC для выбора установки ▭, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора установки PROTECT, а затем нажмите диск.
(6) Поверните диск SEL/PUSH EXEC для выбора установки ON, а затем нажмите диск.
(7) Нажмите кнопку MENU для стирания индикации меню. На дисплее появится знак ⊶ рядом с названием файла данных защищенного изображения.



Preventing accidental erasure – Image protection

Предотвращение случайного стирания – Защита изображения

To cancel image protection

Select OFF in step 6, then press the SEL/PUSH EXEC dial.

Note
Formatting erases all information on the “Memory Stick”, including the protected image data. Check the contents of the “Memory Stick” before formatting.

If the write-protect tab on the “Memory Stick” is set to LOCK
You cannot carry out image protection.

Для отмены защиты изображения

Выберите установку OFF в пункте 6, а затем нажмите диск SEL/PUSH EXEC.

Примечание
Форматирование стирает всю информацию на “Memory Stick”, включая данные защищенного изображения. Проверьте содержание “Memory Stick” перед форматированием.

Если лепесток защиты записи на “Memory Stick” установлен в положение LOCK
Вы не сможете выполнить защиту изображения.

Deleting images

Удаление изображений

You can delete images stored in a “Memory Stick.”
Before operation
Insert a"Memory Stick" into your camcorder.

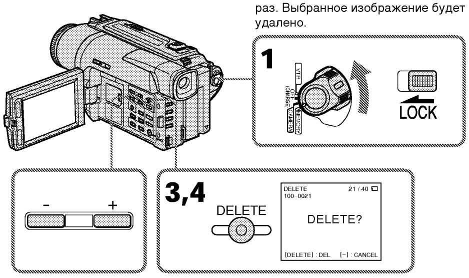
Deleting selected images

(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
(2) Play back the image you want to delete (p. 119).
(3) Press MEMORY DELETE. “DELETE?” appears on the LCD screen.
(4) Press MEMORY DELETE again. The selected image is deleted.

Вы можете удалить изображения, хранимые на “Memory Stick”.
Перед началом работы
Вставьте “Memory Stick” в Вашу видеокамеру.

Удаление выбранных изображений

(1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Воспроизведите изображение, которое Вы хотите удалить (стр. 119).
(3) Нажмите кнопку MEMORY DELETE с помощью заостренного предмета. На экране ЖКД появится индикация “DELETE?”
(4) Нажмите кнопку MEMORY DELETE еще раз. Выбранное изображение будет удалено.



To cancel deleting an image

Press MEMORY – in step 4.

To delete an image displayed on the index screen

Press MEMORY +/– to move the ▶ indicator to the desired image and follow steps 3 and 4.

Notes
- To delete a protected image, first cancel image protection.
- Once you delete an image, you cannot restore it. Check the images to delete carefully before deleting them.

Для отмены удаления изображения

Нажмите кнопку MEMORY – в пункте 4.

Для отмены изображения, отображаемого на индексном экране

Нажмите кнопку MEMORY +/– для перемещения индикатора ▶ к нужному изображению и выполните действия пунктов 3 и 4.

Примечания
- Для удаления защищенного изображения, сначала отмените защиту изображения.
- После удаления изображения Вы не сможете восстановить его. Проверьте изображения внимательно, прежде чем удалить их.

Deleting images

Удаление изображений

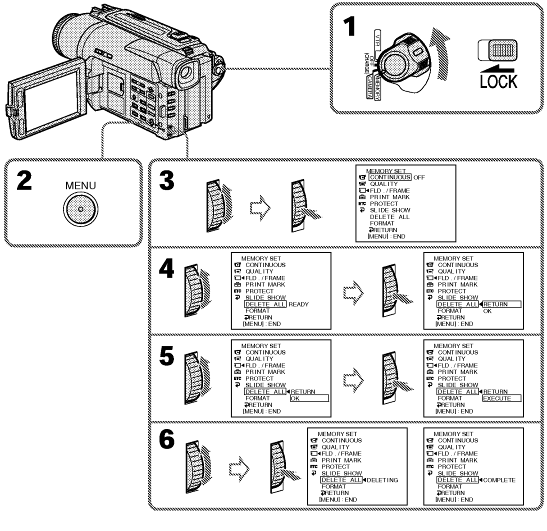
Deleting all the images

You can delete all the unprotected images in the “Memory Stick”.

(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
(2) Press MENU to make the menu display appear.
(3) Turn the SEL/PUSH EXEC dial to select ▭, then press the dial.
(4) Turn the SEL/PUSH EXEC dial to select DELETE ALL, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select OK, then press the dial. OK changes to EXECUTE.
(6) Turn the SEL/PUSH EXEC dial to select EXECUTE, then press the dial. DELETING appears on the LCD screen. When all the unprotected images are deleted, COMPLETE is displayed.

Удаление всех изображений

Вы можете удалить все незащищенные изображения на “Memory Stick”.
(1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Нажмите кнопку MENU, чтобы на дисплее появилась индикация меню.
(3) Поверните диск SEL/PUSH EXEC для выбора установки ▭, а затем нажмите диск.
(4) Поверните диск SEL/PUSH EXEC для выбора установки DELETE ALL, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора установки OK, а затем нажмите диск. Индикация OK изменится на индикацию EXECUTE.
(6) Поверните диск SEL/PUSH EXEC для выбора установки EXECUTE, а затем нажмите диск. На экране ЖКД появится индикация DELETING. Когда все незащищенные изображения будут удалены, на дисплее появится индикация COMPLETE.



Deleting images

To cancel deleting all the images in the "Memory Stick"
Select RETURN in step 5, then press the SEL/PUSH EXEC.

While DELETING appears
Do not turn the POWER switch or press any buttons.

If the write-protect tab on the "Memory Stick" is set to LOCK
You cannot delete images.

Удаление изображений

Для отмены удаления всех изображений на "Memory Stick"
Выберите установку RETURN в пункте 5, а затем нажмите кнопку SEL/PUSH EXEC

Во время отображения индикации DELETING
Не изменяйте положение переключателя POWER и не нажимайте каких-либо кнопок.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK
Вы не можете удалять изображения.

Writing a print mark - PRINT MARK

You can specify the recorded still image to print out. This function is useful for printing out still images later.
Your camcorder conforms with the DPOF (Digital Print Order Format) standard for specifying the still images to print out.

Before operation
Insert a "Memory Stick" into your camcorder.

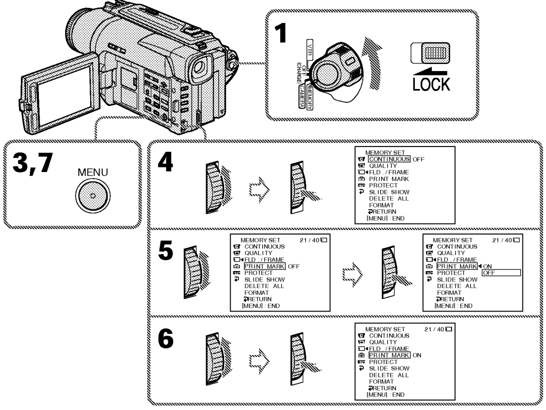
(1) Set the POWER switch to MEMORY, VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). Make sure that the LOCK is set to the right (unlock) position.
(2) Play back the image you want to write a print mark. (p. 119)
(3) Press MENU to display the menu.
(4) Turn the SEL/PUSH EXEC dial to select ▭, then press the dial.
(5) Turn the SEL/PUSH EXEC dial to select PRINT MARK, then press the dial.
(6) Turn the SEL/PUSH EXEC dial to select ON, then press the dial.
(7) Press MENU to erase the menu display. The 🖶 mark is displayed beside the data file name of the image with a print mark.

Запись печатных знаков – PRINT MARK

Вы можете указать записанные изображения для распечатки. Эта функция является полезной для распечатки неподвижных изображений позже.
Ваша видеокамера соответствует стандарту DPOF (цифровой служебный формат распечатки) для указания неподвижных изображений для распечатки.

Перед началом работы
Вставьте "Memory Stick" в Вашу видеокамеру.

(1) Установите переключатель POWER в положение MEMORY, VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E). Убедитесь, что фиксатор LOCK установлен в правом (незафиксированном) положении.
(2) Воспроизведите изображение, на котором Вы хотите записать печатный знак. (стр. 119)
(3) Нажмите кнопку MENU, чтобы на дисплее появилось меню.
(4) Поверните диск SEL/PUSH EXEC для выбора установки ▭, а затем нажмите диск.
(5) Поверните диск SEL/PUSH EXEC для выбора установки PRINT MARK, а затем нажмите диск.
(6) Поверните диск SEL/PUSH EXEC для выбора установки ON, а затем нажмите диск.
(7) Нажмите кнопку MENU для стирания индикации меню. На дисплее появится знак 🖶 рядом с названием файла данных изображения с печатным знаком.



Writing a print mark - PRINT MARK

To cancel writing print marks
Select OFF in step 6, then press the SEL/PUSH EXEC dial.

If the write-protect tab on the "Memory Stick" is set to LOCK
You cannot write print marks on still images.

Запись печатных знаков – PRINT MARK

Для отмены записи печатных знаков
Выберите установку OFF в пункте 6, а затем нажмите диск SEL/PUSH EXEC.

Если лепесток защиты записи на "Memory Stick" установлен в положение LOCK
Вы не можете записать печатные знаки на неподвижные изображения.

— Additional Information —

Digital8 D8 system, recording and playback

What is the "Digital8 D8 system"?

This video system has been developed to enable digital recording to Hi8 Hi8/Digital8 D8 video cassette .

Usable cassette tapes

We recommend using Hi8 Hi8/Digital8 D8 video cassette.*
The recording time when you use your Digital8 D8 system camcorder on Hi8 Hi8/standard 8 8 tape is half the recording time when using the conventional Hi8 Hi8/standard 8 8 system camcorder. (120 minutes of recording time becomes 60 minutes in the SP mode.)
* If you use standard 8 8 tape, be sure to play back the tape on this camcorder. Mosaic pattern noise may appear when you play back standard 8 8 tape on other VCRs (including other DCR-TRV420E/TRV520E/TRV620E).

Note
Tapes recorded in the Digital8 D8 system cannot be played back on Hi8 Hi8/standard 8 8 (analog) system machine.

8 is a trademark.
Hi8 is a trademark.
D8 is a trademark.

Playback system

The Digital8 D8 system or Hi8 Hi8/standard 8 8 system is automatically detected before the tape is played back.
During playback of tapes recorded in the Hi8 Hi8/standard 8 8 system, digital signals are output as the image signals from the i DV IN/OUT or i DV OUT jack.

Display during automatic detection of system
The Digital8 D8 system or Hi8 Hi8/standard 8 8 system is automatically detected, and the playback system is automatically switched to. During switching of systems, the screen turns blue, and the following displays appear. A hissing noise also sometimes can be heard.

D8 → Hi8/8: During switching from Digital8 D8 to Hi8 Hi8/standard 8 8
Hi8/8 → D8: During switching from Hi8 Hi8/standard 8 8 to Digital8 D8

When you play back

Playing back an NTSC-recorded tape
You can play back tapes recorded in the NTSC video system on the LCD screen, if the tape is recorded in the SP mode.

— Дополнительная информация —

Цифровая система Digital8 D8, запись и воспроизведение

Что такое "Цифровая система Digital8 D8"?

Эта видеосистема была разработана для обеспечения цифровой записи на видеокассеты Hi8 Hi8/Digital8 D8.

Используемые кассеты
Рекомендуется использовать видеокассеты Hi8 Hi8/Digital8 D8.*
Время записи при использовании Вашей видеокамеры системы Digital8 D8 на ленте Hi8 Hi8/стандартной ленте 8 8 в два раз меньше, чем при использовании обычной видеокамеры Hi8 Hi8/видеокамеры стандартной системы 8 8. (120 минут времени записи становятся равными 60 минутам в режиме SP).
* При использовании стандартной ленты 8 8, ее следует воспроизводить на этой же видеокамере. При воспроизведении стандартной ленты 8 8 на других КВМ (включая другие аппараты DCR-TRV420E/TRV520E/TRV620E) могут появится помехи типа мозаики.

Примечание
Ленты, записанные в цифровой системе Digital8 D8, не могут быть воспроизведены на аппаратуре системы Hi8 Hi8/стандартной системы 8 8 (аналоговой).

8 является фирменным знаком.
Hi8 является фирменным знаком.
D8 является фирменным знаком.

Система воспроизведения

Цифровая система Digital8 D8 или Hi8 Hi8/стандартная система 8 8 автоматически детектируется перед воспроизведением ленты. Во время воспроизведения лент, записанных в системе Hi8 Hi8/стандартной системе 8 8 цифровые сигналы выводятся в качестве сигналов изображения через гнездо i DV IN/OUT или i DV OUT.

Индикация во время автоматического детектирования системы
Цифровая система Digital8 D8 или Hi8 Hi8/стандартная система 8 8 автоматически детектируется, а система воспроизведения автоматически включается. Во время выключения систем, экран становится голубым и появляются следующие индикации. Может быть также слышен свистящий шум.

D8 → Hi8/8: Во время переключения с системы Digital8 D8 на систему Hi8 Hi8/стандартную систему 8 8
Hi8/8 → D8: Во время переключения с системы Hi8 Hi8/стандартной системы 8 8 на цифровую систему Digital8 D8

При воспроизведении

Воспроизведение лент, записанных в системе NTSC
Вы можете воспроизводить ленты, записанные в видеосистеме NTSC, на экране ЖКД, если лента записана в режиме SP.

Copyright signal

When you play back
Using any other video camera recorder, you cannot record on a tape that has recorded copyright control signals for copyright protection of software which is played back on your camcorder.

When you record
You cannot record software on your camcorder that contains copyright control signals for copyright protection of software. COPY INHIBIT appears on the LCD screen, in the viewfinder or on the TV screen if you try to record such as software. Your camcorder does not record copyright control signals on the tape when it records.

When you playback a dual sound track tape

When you use tapes recorded in the Digital8 Ð system

When you play back a Digital8 Ð system tape which is dubbed from a dual sound track tape recorded in the DV system, set "HiFi SOUND" to the desired mode in the menu settings (p. 85).

Sound from speaker

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Lch	Main sound
2	Rch	Sub sound

When you use a tape recorded in the Hi8/standard 8 system

When you play back a dual sound track tape recorded in an AFM HiFi stereo system, set "HiFi SOUND" to the desired mode in the menu settings (p. 85).

Sound from speaker

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Monaural	Main sound
2	Unnatural Sound	Sub sound

You cannot record dual sound programmes on your camcorder.

Сигнал авторского права

При воспроизведении
При использовании какой-либо другой видеокамеры Вы не можете выполнять запись на ленту, на которой записаны контрольные сигналы авторского права для защиты авторских прав программ, которые воспроизводятся на Вашей видеокамере.

При записи
Вы не можете записывать на Вашей видеокамере программы, содержащие контрольные сигналы авторского права для защиты авторских прав программ. Если Вы попытаетесь записать такую программу, на экране ЖКД, в видоискателе или на экране телевизора появится индикация COPY INHIBIT. При записи Ваша видеокамера не будет записывать контрольные сигналы авторского права.

При воспроизведении ленты с двойной звуковой дорожкой

При использовании лент, записанных в цифровой системе Digital8 Ð

При воспроизведении ленты в цифровой системе Digital8 Ð, на которую выполнена перезапись ленты с двойной звуковой дорожкой, записанной в цифровой видеосистеме DV, установите команду "HiFi SOUND" в нужный режим в установках меню (стр. 85).

Звук от динамика

Режим звучания HiFi	Воспроизведение стереофонической ленты	Воспроизведение ленты с двойной звуковой дорожкой
STEREO	Стереофонический звук	Основной звук и вспомогательный звук
1	Левый канал	Основной звук
2	Правый канал	Вспомогательный звук

При использовании лент, записанных в системе Hi8/стандартной системе 8

При воспроизведении ленты с двойной звуковой дорожкой, записанной в стереофонической системе AFM HiFi, установите команду "HiFi SOUND" в нужный режим в установках меню (стр. 85).

Звук от динамика

Режим звучания HiFi	Воспроизведение стереофонической ленты	Воспроизведение ленты с двойной звуковой дорожкой
STEREO	Стереофонический звук	Основной звук и вспомогательный звук
1	Монофонический звук	Основной звук
2	Необычный звук	Вспомогательный звук

Вы не можете записывать программы с двойным звучанием на Вашей видеокамере.

About i.LINK

The DV jack on this unit is an i.LINK-compliant DV input/output jack. This section describes the i.LINK standard and its features.

What is "i.LINK"?

i.LINK is a digital serial interface for handling digital video, digital audio and other data in two directions between equipment having the i.LINK jack, and for controlling other equipment.
i.LINK-compatible equipment can be connected by a single i.LINK cable. Possible applications are operations and data transactions with various digital AV equipment.
When two or more i.LINK-compatible equipment are connected to this unit in a daisy chain, operations and data transactions are possible with not only the equipment that this unit is connected to but also with other devices via the directly connected equipment.
Note, however, that the method of operation sometimes varies according to the characteristics and specifications of the equipment having two or more i.LINK jacks (DV jacks) to be connected, and that operations and data transactions are sometimes not possible on some connected equipment.

Note
Normally, only one piece of equipment can be connected to this unit by the i.LINK cable (DV cable). When connecting this unit to two or more i.LINK-compatible equipment, refer to the instruction manual of the equipment to be connected.

About the Name "i.LINK"

i.LINK is a more familiar term for IEEE 1394 data transport bus proposed by SONY, and is a trademark approved by many corporations.
IEEE 1394 is an international standard standardized by the Institute of Electrical and Electronic Engineers.

Относительно i.LINK

Цифровое гнездо DV на данном аппарате удовлетворяет стандарту i.LINK и является совместимым с входным/выходным гнездом цифровых видеосигналов DV. В этом разделе описан стандарт i.LINK и его основные особенности.

Что такое "i.LINK"?

i.LINK является цифровым последовательным интерфейсом для управления цифровыми видеосигналами, цифровыми аудиосигналами и другими данными в двух направлениях между аппаратами, имеющими гнезда i.LINK, а также для управления другими аппаратами.
i.LINK-совместимый аппарат можно подсоединить с помощью одного кабеля i.LINK. Возможные применения этой функции охватывают операции и передачи данных с разными цифровыми аудиовидеоаппаратами.
Если к данному аппарату подсоединены два или более i.LINK-совместимых аппарата в последовательной цепи, то возможны операции и передачи данных не только с подсоединенным аппаратом, но и с другими аппаратами через непосредственно подсоединенный аппарат.
Однако имейте в виду, что метод управления иногда отличается в зависимости от характеристики и технических данных подсоединяемого аппарата с двумя или более гнездами i.LINK (гнезда DV), и что операции и передачи данных иногда невозможны на некоторых подсоединяемых аппаратах.

Примечание
Обычно, только один аппарат можно подсоединить к данному аппарату с помощью кабеля i.LINK (цифрового кабеля DV). При подсоединении данного аппарата к двум или более i.LINK-совместимым аппаратам изучите руководство по эксплуатации соответствующего подсоединяемого аппарата.

Относительно названия "i.LINK"

i.LINK является более привычным термином для шины передачи данных IEEE 1394, предложенной фирмой SONY, и он является фирменным знаком, утвержденным многими корпорациями.
IEEE 1394 является международным стандартом, утвержденным Институтом инженеров по электротехнике и электронике.

---

i.LINK Baud rate

i.LINK's maximum baud rate varies according to the equipment. Three maximum baud rates are defined:

S100 (approx. 100Mbps*)
S200 (approx. 200Mbps)
S400 (approx. 400Mbps)

The baud rate is listed under "Specifications" in the instruction manual of each equipment. It is also indicated near the i.LINK jack on some equipment.
The maximum baud rate of equipment on which it is not indicated such as this unit is "S100".
When units are connected to equipment having a different maximum baud rate, the baud rate sometimes differs from the indicated baud rate.

* What is "Mbps"?
Mbps stands for megabits per second, or the amount of data that can be sent or received in one second. For example, a baud rate of 100Mbps means that 100 megabits of data can be sent in one second.

i.LINK Functions on this unit

For details on how to dub when this unit is connected to other video equipment having DV jacks, see page 75.
This unit can also be connected to other i.LINK (DV) compatible equipment made by SONY (e.g. VAIO series personal computer) other than video equipment.
Before connecting this unit to a personal computer, make sure that application software supported by this unit is already installed on the personal computer.
For details on precautions when connecting this unit, also refer to the instruction manuals for the equipment to be connected.

Required i.LINK Cable

Use the Sony i.LINK 4-pin-to-4-pin cable (during DV dubbing).

i.LINK and ℹ are trademarks.

Скорость передачи i.LINK

Максимальная скорость передачи i.LINK изменяется в зависимости от аппарата. Имеются три максимальные скорости передачи:

S100 (приблиз. 100 Мбит/с*)
S200 (приблиз. 200 Мбит/с)
S400 (приблиз. 400 Мбит/с)

Скорость передачи указывается в разделе "Технические характеристики" в руководстве по эксплуатации каждого аппарата. На некоторых аппаратах она может быть также указана возле гнезда i.LINK.
Максимальная скорость передачи аппарата, на котором она не указана, например, для данного аппарата, равна "S100".
В случае, если аппараты подсоединяются к оборудованию с другой максимальной скоростью передачи, то скорость передачи иногда может отличаться от указанной скорости передачи.

* Что такое "Мбит/с"?
Мбит/с означает количество мегабит за секунду или количество данных, которое можно посылать или принимать за одну секунду. Например, скорость передачи 100 Мбит/с означает, что 100 мегабит данных может быть послано за одну секунду.

Функции i.LINK на данном аппарате

Подробные сведения о том, как выполнять перезапись, когда данный аппарат подсоединен к другому видеооборудованию с гнездами DV, см. на стр. 75.
Данный аппарат может быть также подсоединен к другому, i.LINK (DV)-совместимому оборудованию фирмы SONY (например, персональному компьютеру серии VAIO), не относящемуся к видеоаппаратуре.
Перед подсоединением данного аппарата к персональному компьютеру убедитесь, что на компьютере уже установлено программное приложение, поддерживаемое данным аппаратом.
Подробные сведения относительно мер предосторожности при подсоединении данного аппарата приведены также в руководстве по эксплуатации для каждого подсоединяемого аппарата.

Требуемый кабель i.LINK

Используйте 4-штырьковый-к- 4-штырьковому кабель i.LINK фирмы Sony (во время цифровой видеоперезаписи)

i.LINK и ℹ являются фирменными знаками.

Changing the lithium battery in your camcorder

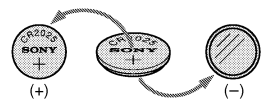
When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the menu settings hold in memory by the lithium battery.

Insert the battery with the positive (+) side facing out. When the battery becomes weak or dead, the ⏲ indicator flashes on the LCD screen or in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA or MEMORY. In this case, **replace the battery with a Sony CR2025 lithium battery. Use of any other battery may present a risk of fire or explosion.** Discard used batteries according to the manufacturer's instructions.

Замена литиевой батарейки в Вашей видеокамере

При замене литиевой батарейки батарейный блок или другой источник питания должен быть прикреплен к видеокамере. В противном случае Вам понадобится переустанавливать дату, время и другие пункты в установках меню, хранимых в памяти видеокамеры с помощью литиевой батарейки.

Вставьте батарейку так, чтобы положительный (+) полюс был обращен наружу. Если батарейка станет или разрядится, индикатор ⏲ будет мигать на экране ЖКД или в видоискателе около 5 секунд, если переключатель POWER установлен в положение CAMERA или MEMORY. В этом случае, **замените батарейку на литиевую батарейку Sony CR2025. Использование какой-либо другой батарейки может представлять риск воспламенения или взрыва.** Ликвидируйте использованные батарейки в соответствии с инструкциями предприятия-изготовителя.



WARNING
The battery may explode if mistreated. Do not recharge, disassemble, nor dispose of it in fire.

Lithium battery
- Keep the lithium battery out of the reach of children.
- Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to ensure good contact.

Lithium battery installed at the factory
This battery may not last 1 year.

ВНИМАНИЕ
Если с батарейкой неправильно обращаться, она может взорваться. Не перезаряжайте, не разбирайте и не бросайте в огонь батарейку.

Литиевая батарейка
- Храните литиевую батарейку в месте, не доступном для детей.
- В случае, если кто-либо случайно проглотит батарейку, следует немедленно обратиться к врачу.
- Протрите батарейку сухой тканью для обеспечения хорошего контакта.

Литиевая батарейка, установленная на заводе
Этой батарейки может не хватить на 1 год.

Changing the lithium battery in your camcorder

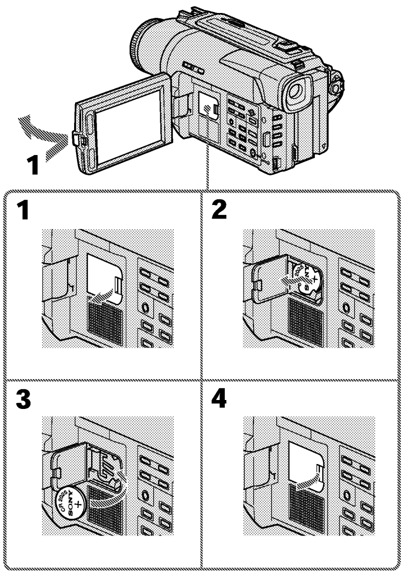
Changing the lithium battery

(1) Open the LCD panel and open the lid of the lithium battery compartment.
(2) Push the lithium battery in the direction of the arrow and pull it out from the holder.
(3) Install a Sony CR2025 lithium battery with the positive (+) side facing out.
(4) Close the lid.

Замена литиевой батарейки в Вашей видеокамере

Замена литиевой батарейки

(1) Откройте панель ЖКД и откройте крышку отсека для литиевой батарейки.
(2) Нажмите литиевую батарейку в направлении стрелки и выньте ее из держателя.
(3) Установите литиевую батарейку Sony CR2025 так, чтобы положительный (+) полюс был обращен наружу.
(4) Закройте крышку.



English

Troubleshooting

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer or local authorized Sony service facility. If "C:□□:□□" appears on the LCD screen, in the viewfinder or the display window, the self-diagnosis display function has worked. See page 146.

In the recording mode

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	• The POWER switch is set to OFF (CHARGE), VTR (DCR-TRV620E), PLAYER (DCR-TRV420E/TRV520E) or MEMORY. ➔ Set it to CAMERA. (p. 21) • The tape has run out. ➔ Rewind the tape or insert a new one. (p. 19, 33) • The write-protect tab is set to expose the red mark. ➔ Use a new tape or slide the tab. (p. 20) • The tape is stuck to the drum (moisture condensation). ➔ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)
The power goes off.	• While being operated in CAMERA mode, your camcorder has been in the standby mode for more than 3 minutes. ➔ Set the POWER switch to OFF (CHARGE) and then to CAMERA again. (p. 21)
The image on the viewfinder screen is not clear.	• The viewfinder lens is not adjusted. ➔ Adjust the viewfinder lens. (p. 25)
The SteadyShot function does not work.	• STEADYSHOT is set to OFF in the menu settings. ➔ Set it to ON. (p. 85)
The autofocusing function does not work.	• FOCUS is set to MANUAL. ➔ Set it to AUTO. (p. 57) • Shooting conditions are not suitable for autofocus. ➔ Set FOCUS to MANUAL to focus manually. (p. 57)
The fader function does not work.	• The digital effect function is working. ➔ Cancel it. (p. 53)
The picture does not appear in the viewfinder.	• The LCD panel is open. ➔ Close the LCD panel. (p. 23)
You cannot record in the LP mode.	• The tape is the standard 8 tape. ➔ Use Hi8 Hi8/Digital8 D tapes. (p. 89)
A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background.	• The contrast between the subject and background is too high. This is not a malfunction.
A vertical band appears when you shoot a very bright subject.	• This is not a malfunction.

(Continued on the following page)

Troubleshooting

Symptom	Cause and/or Corrective Actions
Some tiny white spots appear on the LCD screen or in the viewfinder.	• Slow shutter, low lux or Super NightShot mode is activated. This is not a malfunction.
An unknown picture is displayed on the LCD screen or in the viewfinder.	• If 10 minutes elapse after you set the POWER switch to CAMERA or DEMO MODE is set to ON in the menu settings without a cassette inserted, your camcorder automatically starts the demonstration. ➔ Insert a cassette and the demonstration stops. You can also cancel DEMO MODE. (p. 90)
The picture is recorded in incorrect or unnatural colours.	• NIGHTSHOT is set to ON. ➔ Set it to OFF. (p. 28)
Picture appears too bright, and the subject does not appear on the LCD screen or in the viewfinder.	• NIGHTSHOT is set to ON in a bright place. ➔ Set it to OFF, or use the NightShot function in a dark place. (p. 28)
A horizontal black band appears when shooting a TV screen or computer screen.	• Set STEADYSHOT to OFF in the menu settings (p. 85).

In the playback mode

Symptom	Cause and/or Corrective Actions
The tape does not move when a video control button is pressed.	• The POWER switch is set to CAMERA, MEMORY or OFF (CHARGE). ➔ Set it to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E). (p. 33)
The playback button does not work.	• The tape has run out. ➔ Rewind the tape. (p. 33)
There are horizontal lines on the picture or the playback picture is not clear or does not appear.	• The video head may be dirty. ➔ Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 159)
No sound or only a low sound is heard when playing back a tape.	• The stereo tape is played back with HiFi SOUND set to 2 in the menu settings. ➔ Set it to STEREO. (p. 85) • The volume is turned to minimum. ➔ Open the LCD panel and press VOLUME +. (p. 33) • AUDIO MIX is set to ST2 side in the menu settings. ➔ Adjust AUDIO MIX. (p. 85)
The date search does not work correctly.	• The tape has a blank portion in the recorded portion (p. 69)
The picture which is recorded in the Digital8 D system is not played back.	• PB MODE is set to Hi8/8 in the menu settings. ➔ Set it to AUTO. (p. 85)
The tape which is recorded in the Hi8/standard 8 system is not played back correctly.	• Set PB MODE to Hi8/8 in the menu settings. (p. 85)

Troubleshooting

In the recording and playback modes

Symptom	Cause and/or Corrective Actions
The power does not turn on.	• The battery pack is not installed, or is dead or nearly dead. ➔ Install a charged battery pack. (p. 12, 13) • The AC power adaptor is not connected to the mains. ➔ Connect the AC power adaptor to the mains. (p. 18)
The end search function does not work.	• The tape was ejected after recording. • You have not recorded on the new cassette yet.
The end search function does not work correctly.	• The tape has a blank portion in the beginning or middle.
The battery pack is quickly discharged.	• The operating temperature is too low. • The battery pack is not fully charged. ➔ Charge the battery pack fully again. (p. 13) • The battery pack is completely dead, and cannot be recharged. ➔ Replace with a new battery pack. (p. 12)
The battery remaining indicator does not indicate the correct time.	• You have used the battery pack in an extremely hot or cold environment for a long time. • The battery pack is completely dead, and cannot be recharged. ➔ Replace with a new battery pack. (p. 12) • The battery is dead. ➔ Use a charged battery pack. (p. 12, 13)
The power goes off although the battery remaining indicator indicates that the battery pack has enough power to operate.	• Charge the battery pack fully again so that the indication on the battery remaining indicator is correct.
The cassette cannot be removed from the holder.	• The power source is disconnected. ➔ Connect it firmly. (p. 13, 18) • The battery is dead. ➔ Use a charged battery pack. (p. 12, 13)
The ▣ and ⏏ indicators flash and no functions except for cassette ejection work.	• Moisture condensation has occurred. ➔ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)

(Continued on the following page)

When operating using the "Memory Stick"

Symptom	Cause and/or Corrective Actions
The "Memory Stick" does not function.	• The POWER switch is set to CAMERA or OFF (CHARGE) → Set it to MEMORY. (p. 103) • "Memory Stick" is not inserted. → Insert a "Memory Stick". (p. 102)
Recording does not function.	• The "Memory Stick" has already been recorded to its full capacity. → Erase unnecessary images and record again. (p. 130, 105) • The "Memory Stick" formatted incorrectly is inserted. → Format the "Memory Stick" on your camcorder or use another "Memory Stick." (p. 94) • The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100)
The image cannot be deleted.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100) • The image is protected. → Cancel image protection. (p. 128)
You cannot format the "Memory Stick".	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100)
Deleting all the images cannot be carried out.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100)
You cannot protect the image.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100) • The image to protect is not played back. → Press MEMORY PLAY to play back the image. (p. 119)
You cannot write a print mark on the still image.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100) • The image to write a print mark is not played back. → Press MEMORY PLAY to play back the image. (p. 119)
The photo save function does not work.	• The write-protect tab on the "Memory Stick" is set to LOCK. → Release the lock. (p. 100)

Others

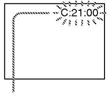
Symptom	Cause and/or Corrective Actions
The Remote Commander supplied with your camcorder does not work.	• COMMANDER is set to OFF in the menu settings. → Set it to ON. (p. 85) • Something is blocking the infrared rays. → Remove the obstacle. • The batteries are inserted in the battery holder with the + – polarities incorrectly matching the + – marks. → Insert the batteries with the correct polarity. (p. 171) • The batteries are dead. → Insert new ones. (p. 171)
The picture from a TV or VCR does not appear even when your camcorder is connected to outputs on the TV or VCR.	• DISPLAY is set to V-OUT/LCD in the menu settings. → Set it to LCD. (p. 85)
The melody or beep sounds for 5 seconds.	• Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158) • Some troubles has occurred in your camcorder. → Remove the cassette and insert it again, then operate your camcorder.
While charging the battery pack, no indicator appears or the indicator flashes in the display window.	• The AC power adaptor is disconnected. → Connect it firmly. (p. 18) • Something is wrong with the battery pack. → Contact your Sony dealer or local authorized Sony service facility.

English

Self-diagnosis display

Your camcorder has a self-diagnosis display function. This function displays the current condition of your camcorder as a 5-digit code (a combination of a letter and figures) on the LCD screen, in the viewfinder or in the display window. If a 5-digit code is displayed, check the following code chart. The last two digits (indicated by □□) will differ depending on the state of your camcorder.

LCD screen, viewfinder or display window



Self-diagnosis display

- C:□□:□□
  You can service your camcorder yourself.
- E:□□:□□
  Contact your Sony dealer or local authorized Sony facility.

Five-digit display	Cause and/or Corrective Actions
C:04:□□	• You are using a battery pack that is not an "InfoLITHIUM" battery pack. → Use an "InfoLITHIUM" battery pack. (p. 17)
C:21:□□	• Moisture condensation has occurred. → Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 158)
C:22:□□	• The video heads are dirty. → Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 159)
C:31:□□ C:32:□□	• A malfunction other than the above that you can service has occurred. → Remove the cassette and insert it again, then operate your camcorder. → Disconnect the mains lead of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder.
E:61:□□ E:62:□□	• A malfunction that you cannot service has occurred. → Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10)

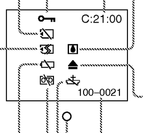
If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

English

Warning indicators and messages

If indicators and messages appear on the LCD screen, in the viewfinder or in the display window, check the following:
See the page in parentheses "( )" for more information.

Warning indicators



The still image is protected*
Slow flashing:
- The still image is protected. (p. 128)

Warning indicator as to "Memory Stick"*
Slow flashing:
- No "Memory Stick" is inserted. (p. 102)

Fast flasing:
- The "Memory Stick" is not readable with your camcorder (p. 100)

Warning indicator as to "Memory Stick"*
Fast flashing:
- "Memory Stick" is not formatted correctly. (p. 88)
- The "Memory Stick" data is corrupted. (p. 100)

The battery is dead or nearly dead
Slow flashing:
- The battery is nearly dead. (p. 13)

Fast flasihng:
- The battery is dead. (p. 13)

Depending on conditions, the ⌫ indicator may flash, even if there are 5 to 10 minutes remaining.

Warning indicator as to tape
Slow flashing:
- The tape is near the end.
- No tape is inserted. (p. 19)
- The write-protect tab on the cassette is out (red).* (p. 20)

Fast flashing:
- The tape has run out.*

The lithium battery is weak or is not installed (p. 139)

Self-diagnosis display (p. 146)

Moisture condensation has occurred*
Fast flashing:
- Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. (p. 158)

You need to eject the cassette*
Slow flashing:
- The write-protect tab on the cassette is out (red). (p. 20)

Fast flashing:
- Moisture condensation has occurred. (p. 158)
- The tape has run out .
- The self-diagnosis display function is activated. (p. 146)

Warning indicator as to file
Slow flashing:
- The file is corrupted. (p. 100)
- The file is unreadable. (p. 100)

Warning indicator as to tape or battery (DCR-TRV420E/TRV520E only)**
Slow flashing:
- The battery is nearly dead.
- The tape is near the end.

Fast flashing:
- The battery is dead.
- The tape has run out.*

---

* You hear the melody or beep sound.
** This indicator appears in the viewfinder only.

Warning indicators and messages

Warning messages

• CLOCK SET	Reset the date and time. (p. 98)
• FOR "InfoLITHIUM" BATTERY ONLY	Use an "InfoLITHIUM" battery pack. (p. 17)
• 8 mm TAPE → SP REC Hi8 TAPE → LP/SP REC	Use Hi8 Hi8/Digital 8 tapes when you record in the LP mode. * (p. 89)
• ▣⏏ TAPE END	The tape has run out. *
• ▣ NO TAPE	Insert a cassette tape. * (p. 19)
• ▣ CLEANING CASSETTE**	The video heads are dirty. (p. 159)
• ▧ FULL	The "Memory Stick" is full.* (p. 107)
• ▧ ⊶	The write-protect tab on the "Memory Stick" is set to LOCK. * (p. 100)
• ▧ NO FILE	No still image is recorded on the "Memory Stick".* (p. 120)
• ▧ NO MEMORY STICK	No "Memory Stick" is inserted.* (p. 102)
• ▧ MEMORY STICK ERROR	The "Memory Stick" data is corrupted.*
• ▧ FORMAT ERROR	Check the type of formatting.*
• ▧ ⊶ DIRECTORY ERROR	The "Memory Stick" has move than one directory such as 100msdcf.*

* You hear the melody or beep sound.

** The ⊗ indicator and "▣ CLEANING CASSETTE" message appear one after another on the LCD screen or in the viewfinder.

Using your camcorder abroad

Using your camcorder abroad

You can use your camcorder in any country or area with the AC power adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz.

Your camcorder is a PAL system based camcorder. If you want to view the playback picture on a TV, it must be a PAL system based TV with VIDEO/AUDIO input jack.
The following shows TV colour systems used overseas.

PAL system
Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

PAL-M system
Brazil

PAL-N system
Argentina, Paraguay, Uruguay

NTSC system
Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela, etc.

SECAM system
Bulgaria, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

Simple setting of clock by time difference

You can easily set the clock to the local time by setting a time difference. Select WORLD TIME in the menu settings. See page 85 for more information.

Использование Вашей видеокамеры за границей

Использование Вашей видеокамеры за границей

Вы можете использовать Вашу видеокамеру в любой стране или области с помощью сетевого адаптера переменного тока, прилагаемого к Вашей видеокамере, который можно использовать в пределах от 100 В до 240 В переменного тока с частотой 50/60 Гц.

Ваша видеокамера основана на системе PAL. Если Вы хотите просмотреть воспроизводимое изображение на телевизоре, то это должен быть телевизор, основанный на системе PAL, с входными гнездами VIDEO/AUDIO.
Ниже приведены системы цветного телевидения, используемые за рубежом.

Система PAL
Австралия, Австрия, Бельгия, Великобритания, Германия, Голландия, Гонконг, Дания, Испания, Италия, Китай, Кувейт, Малайзия, Новая Зеландия, Норвегия, Португалия, Сингапур, Словацкая Республика, Таиланд, Финляндия, Чешская Республика, Швейцария, Швеция и т.д.

Система PAL-M
Бразилия

Система PAL-N
Аргентина, Парагвай, Уругвай

Система NTSC
Багамские острова, Боливия, Венесуэла, Канада, Колумбия, Корея, Мексика, Перу, Суринам, США, Тайвань, Филиппины, Центральная Америка, Чили, Эквадор, Ямайка, Япония и т.д.

Система SECAM
Болгария, Венгрия, Гвиана, Ирак, Иран, Монако, Польша, Россия, Украина, Франция и т.д.

Простая установка разницы во времени на часах

Вы можете легко установить часы на местное время путем установки разницы во времени. Выберите команду WORLD TIME в установках меню. Подробные сведения приведены на стр. 85.

Maintenance information and precautions

Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the 💧 indicator flashes. When the ⏏ indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

If moisture condensation occurred

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. Your camcorder can be used again if the 💧 indicator does not appear when the power is turned on again.

Note on moisture condensation
Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:
- You bring your camcorder from a ski slope into a place warmed up by a heating device.
- You bring your camcorder from an air-conditioned car or room into a hot place outside.
- You use your camcorder after a squall or a shower.
- You use your camcorder in a high temperature and humidity place.

How to prevent moisture condensation
When you bring your camcorder from a cold place into a warm place, put your camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature inside the plastic bag has reached the surrounding temperature (after about 1 hour).

Информация по уходу за аппаратом и меры предосторожности

Конденсация влаги

Если видеокамера принесена прямо из холодного места в теплое, то внутри видеокамеры, на поверхности ленты или на объективе может произойти конденсанция влаги. В таком состоянии лента может прилипнуть к барабану головки и будет повреждена или же видеокамера не сможет работать надлежащим образом. Если внутри видеокамеры произошла конденсация влаги, то прозвучит зуммерный сигнал, а на экране ЖКД будет мигать индикатор 💧. Если в то же самое время будет мигать индикатор ⏏, это значит, что в видеокамеру вставлена кассета. Если влага сконденсировалась на объективе, индикатор появляться не будет.

Если произошла конденсация влаги

Ни одна из функций, кроме выталкивания кассеты, не будет работать. Извлеките кассету, выключите видеокамеру и оставьте ее приблизительно на 1 час с открытым кассетным отсеком. Если при повторном включении питания индикатор 💧 не появится на дисплее, Вы можете снова пользоваться видеокамерой.

Примечание по конденсации влаги
Влага может образоваться, если Вы принесете Вашу видеокамеру из холодного места в теплое (или наоборот) или когда Вы используете Вашу видеокамеру в жарком месте в следующих случаях:
- Вы принесли Вашу видеокамеру с лыжного склона в помещение, где функционирует обогреватель.
- Вы принесли Вашу видеокамеру из автомобиля или из комнаты с воздушным кондиционированием в жаркое место на улице.
- Вы используете видеокамеру после грозы или дождя.
- Вы используете Вашу видеокамеру в очень жарком и влажном месте.

Как предотвратить конденсацию влаги
Если видеокамера принесена из холодного места в теплое, то положите видеокамеру в полиэтиленовый пакет и плотно заклейте его. Выньте видеокамеру из полиэтиленового пакета, когда температура воздуха внутри пакета достигнет температуры окружающего воздуха (приблизительно через 1 час).

Maintenance information and precautions

Maintenance information

Cleaning the LCD screen

If fingerprints or dust make the LCD screen dirty, we recommend using a LCD Cleaning Kit (not supplied) to clean the LCD screen.

Cleaning the video head

To ensure normal recording and clear pictures, clean the video heads.

When you playback/record in the Digital8 system
The video head may be dirty when:
- mosaic-pattern noise appears on the playback picture.
- playback pictures do not move.
- playback pictures are hardly visible.
- playback pictures do not appear.
- the ⊗ indicator and "▣ CLEANING CASSETTE" message appear one after another on the LCD screen or in the viewfinder.

Информация по уходу за аппаратом и меры предосторожности

Информация по уходу

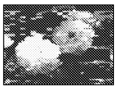
Чистка экрана ЖКД

Если на экране ЖКД появятся отпечатки пальцев или пыль, рекомендуется воспользоваться очистительным набором для ЖКД (не прилагается) для чистки ЖКД.

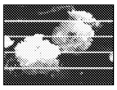
Чистка видеоголовок

Для обеспечения нормальной записи и четкого изображения следует периодически чистить видеоголовки.

При воспроизведении/записи в цифровой системе Digital8
Видеоголовки возможно загрязнены, если:
- На воспроизводимом изображении появляются помехи типа мозаики.
- Воспроизводимое изображение не двигается.
- Воспроизводимое изображение с трудом различимо.
- Воспроизводимое изображение не появляется на экране.
- На экране ЖКД или в видоискателе появляются один за другим индикатор ⊗ и сообщение "▣ CLEANING CASSETTE" или же мигает индикатор ⊗.



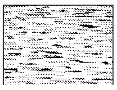
or/или



When you play back in the Hi8/Standard 8 (analog) system
The video head may be dirty when:
- playback pictures contain noise.
- playback pictures are hardly visible.
- playback pictures do not appear.

При воспроизведении в системе Hi8/стандартной системе 8 (аналоговой)
Видеоголовки возможно загрязнены, если:
- Воспроизводимое изображение содержит помехи.
- Воспроизводимое изображение с трудом различимо.
- Воспроизводимое изображение не появляется на экране.

or/или



If the above problems occur, clean the video heads with the Sony V8-25CLD cleaning cassette (not supplied). Check the picture and if the above problems persists, repeat cleaning.

В случае возникновения указанных выше проблем, почистите видеоголовки с помощью очистительной кассеты Sony V8-25CLD (не прилагается). Проверьте изображение и, если описанные выше проблемы не устранились, повторите чистку.

Maintenance information and precautions

Precautions

Camcorder operation

- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
- For DC or AC operation, use the accessories recommended in this operating instructions.
- If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.
- Avoid rough handling or mechanical shock. Be particularly careful of the lens.
- Keep the POWER switch set to OFF (CHARGE) when you are not using your camcorder.
- Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.
- Keep your camcorder away from strong magnetic fields or mechanical vibration. Noise may appear on the image.
- Do not touch the LCD screen with your fingers or a sharp-pointed object.
- If your camcorder is used in a cold place, a residual image may appear on the LCD screen or in the viewfinder. This is not a malfunction.
- While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.

Camcorder care

- Remove the tape, and periodically turn on the power, operate the CAMERA and VTR (DCR-TRV620E)/PLAYER (DCR-TRV420E/TRV520E) sections and play back a tape for about 3 minutes when your camcorder is not to be used for a long time.
- Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish.
- Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

Информация по уходу за аппаратом и меры предосторожности

Меры предосторожности

Эксплуатация видеокамеры

- Эксплуатируйте видеокамеру от 7,2 В (батарейный блок) или 8,4 В (сетевой адаптер переменного тока)
- Что касается эксплуатации видеокамеры от постоянного и переменного тока, используйте принадлежности, рекомендуемые в данной инструкции по эксплуатации.
- Если какой-нибудь твердый предмет или жидкость попали внутрь корпуса, выключите видеокамеру и проверьте ее у дилера Sony перед дальнейшей ее эксплуатацией.
- Избегайте грубого обращения с видеокамерой или механических ударов. Будьте особенно осторожны с объективом.
- Если видеокамера не используется, установите выключатель POWER в положении OFF (CHARGE).
- Не заворачивайте Вашу видеокамеру, например, в полотенце, и не эксплуатируйте ее в таком состоянии. В противном случае может произойти повышение температуры внутри видеокамеры.
- Держите Вашу видеокамеру подальше от сильных магнитных полей или механической вибрации. На изображении могут появиться помехи.
- Не прикасайтесь к экрану ЖКД своими пальцами или острыми предметами.
- При эксплуатации Вашей видеокамеры в холодном месте, на экране ЖКД может появляться остаточное изображение. Это не является неисправностью.
- При эксплуатации Вашей видеокамеры, задняя сторона экрана ЖКД может нагреваться. Это не является неисправностью.

Обращение с лентами

Не вставляйте ничего в маленькие отверстия на задней стороне кассеты. Эти отверстия используются для определения типа и толщины ленты, а также для определения наличия или отсутствия лепестка защиты записи на ленте.

Уход за видеокамерой

- Периодически вынимайте кассету и включайте питание, оперируйте устройствами CAMERA и VTR (DCR-TRV620E)/PLAYER (DCR-TRV420E/TRV520E) и воспроизводите ленту порядка 3-х минут, если Ваша видеокамера не будет использоваться длительное время.
- Чистите объектив с помощью мягкой кисточки для удаления пыли. Если имеются отпечатки пальцев на объективе, удалите их с помощью мягкой ткани.
- Чистите корпус видеокамеры с помощью сухой мягкой ткани или мягкой ткани, слегка смоченной раствором умеренного моющего средства. Не используйте каких-либо типов растворителей, которые могут повредить отделку.
- Не допускайте попадания песка в видеокамеру. Если Вы используете видеокамеру на песчаном пляже или в каком-либо пыльном месте, предохраните аппарат от песка или пыли. Песок или пыль могут привести к неисправности аппарата, которая иногда может быть неисправимой.

Maintenance information and precautions

Connection to your PC

- When recording with i.LINK cable the image processed or edited by your PC, use a new Hi8 **Hi8**/Digital8 **Ð** tape.
- When inputting the image recorded by Hi8/standard8 (analog) system into your PC, dub the image into a Digital8 **Ð** or DV tape first, and then input it into your PC.

When inputting the image recorded by Hi8/standard 8 system into Sony VAIO

The Program Capture function of DVgate motion doesn't work. To use this function, dub the image into a Digital8 **Ð** or DV tape first, and then input it into your Sony VAIO.

AC power adaptor

- Unplug the unit from the mains when you are not using the unit for a long time. To disconnect the mains lead, pull it out by the plug. Never pull the mains lead itself.
- Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.
- Do not bend the mains lead forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.
- Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.
- Always keep metal contacts clean.
- Do not disassemble the unit.
- Do not apply mechanical shock or drop the unit.
- While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM reception and video operation.
- The unit becomes warm during use. This is not a malfunction.
- Do not place the unit in locations that are:
  - Extremely hot or cold
  - Dusty or dirty
  - Very humid
  - Vibrating

Информация по уходу за аппаратом и меры предосторожности

Подключение к Вашему персональному компьютеру

- При записи с помощью шнура i.LINK, изображение можно обрабатывать и редактировать на Вашем персональном компьютере, используйте при этом новую ленту Hi8 **Hi8**/цифровую ленту ленту Digital8 **Ð**.
- При вводе изображения, записанного в системе Hi8/стандартной системе 8 (аналоговой), в Ваш персональный компьютер, сначала сделайте копию изображения на цифровую ленту Digital8 **Ð** или DV, а затем введите его в персональный компьютер.

При вводе изображения, записанного в системе Hi8/стандартной системе 8, в программу Sony VAIO

Функция захвата изображения DVgate motion не работает. Для использования этой функции сначала скопируйте изображение на цифровую ленту Digital8 **Ð** или DV, а затем введите его в Вашу программу Sony VAIO.

Сетевой адаптер переменного тока

- Отсоедините аппарат от электрической сети, если он не используется длительное время. Для отсоединения сетевого шнура потяните его за разъем. Никогда не тяните за сам шнур.
- Не эксплуатируйте аппарат с поврежденным шнуром или же в случае, если аппарат упал или был поврежден.
- Не сгибайте сетевой провод силой и не ставьте на него тяжелые предметы. Это повредит провод и может привести к пожару или поражению электрическим током.
- Будьте осторожны, чтобы никакие металлические предметы не соприкасались с металлическими контактами соединительной пластины. Если это случится, то может произойти короткое замыкание, и аппарат может быть поврежден.
- Следите за тем, чтобы металлические контакты были чистыми.
- Не разбирайте аппарат.
- Не подвергайте аппарат механической вибрации и не роняйте его.
- При использовании аппарата, особенно во время зарядки, держите его подальше от приемников АМ-радиовещания и видеоаппаратуры. Приемники АМ-радиовещания и видеоаппаратура нарушают АМ-радиоприем и работу видеоаппаратуры.
- В процессе эксплуатации аппарат нагревается. Это является вполне нормальным.
- Не размещайте аппарат в местах:
  - Чрезмерно жарких или холодных
  - Пыльных или грязных
  - Очень влажных
  - Подверженных вибрации

Maintenance information and precautions

Battery pack

- Use only the specified charger or video equipment with the charging function.
- To prevent accident from a short circuit, do not allow metal objects to come into contact with the battery terminals.
- Keep the battery pack away from fire.
- Never expose the battery pack to temperatures above 60°C (140°F), such as in a car parked in the sun or under direct sunlight.
- Keep the battery pack dry.
- Do not expose the battery pack to any mechanical shock.
- Do not disassemble nor modify the battery pack.
- Attach the battery pack to the video equipment securely.
- Charging while some capacity remains does not affect the original battery capacity.

Note on dry batteries

To avoid possible damage from battery leakage or corrosion, observe the following:

- Be sure to insert the batteries with the + – polarities matched to the + – marks.
- Dry batteries are not rechargeable.
- Do not use a combination of new and old batteries.
- Do not use different types of batteries.
- Current flows from batteries when you are not using them for a long time.
- Do not use leaking batteries.

If batteries are leaking

- Wipe off the liquid in the battery compartment carefully before replacing the batteries.
- If you touch the liquid, wash it off with water.
- If the liquid get into your eyes, wash your eyes with a lot of water and then consult a doctor.

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

Информация по уходу за аппаратом и меры предосторожности

Батарейный блок

- Используйте только рекомендуемое зарядное устройство или видеоаппаратуру с зарядной функцией.
- Для предотвращения несчастного случая из-за короткого замыкания не допускайте контакта металлических предметов с полюсами батарейного блока.
- Не располагайте батарейный блок вблизи огня.
- Не подвергайте батарейный блок воздействию температур свыше 60°C, например, в припаркованном под солнцем автомобиле или под прямым солнечным светом.
- Следите за тем, чтобы батарейный блок был сухим.
- Не подвергайте батарейный блок воздействию каких-либо механических ударов.
- Не разбирайте и не видоизменяйте батарейный блок.
- Прикрепляйте батарейный блок к видеоаппаратуре плотно.
- Зарядка в случае оставшейся емкости заряда не отражается на емкости первоначального заряда.

Примечание к сухим батарейкам

Во избежание возможного повреждения видеокамеры вследствие утечки внутреннего вещества батареек или коррозии соблюдайте следующее:

- При установке батареек соблюдайте правильную полярность + – в соответствии с метками + –.
- Сухие батарейки нельзя перезаряжать.
- Не используйте новые батарейки вместе со старыми.
- Не используйте батарейки разного типа.
- Если батарейки не используются длительное время, они постепенно разряжаются.
- Не используйте батарейки, которые потекли.

Если произошла утечка внутреннего вещества батареек

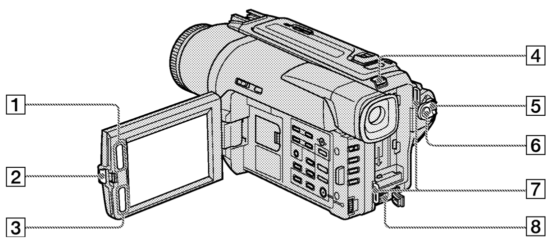
- Перед тем, как заменить батарейки, тщательно протрите остатки жидкости в отсеке для батареек.
- В случае попадания жидкости на кожу, промойте жидкость водой.
- В случае попадания жидкости в глаза, промойте свои глаза большим количеством воды, после чего обратитесь к врачу.

В случае возникновения каких-либо проблем, отключите Вашу видеокамеру от источника питания и обратитесь в ближайший сервисный центр Sony.

— Quick Reference —

Identifying the parts and controls

Camcorder



1. **LCD BRIGHT buttons** (p. 23)
2. **OPEN button** (p. 21)
3. **VOLUME buttons** (p. 33)
4. **BATT RELEASE lever** (p. 12)
5. **POWER switch** (p. 21)
6. **START/STOP button** (p. 21)
7. **Hooks for shoulder strap** (p. 167)
8. **DC IN jack** (p. 13)

This mark indicates that this product is a genuine accessory for Sony video products.
When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES" mark.

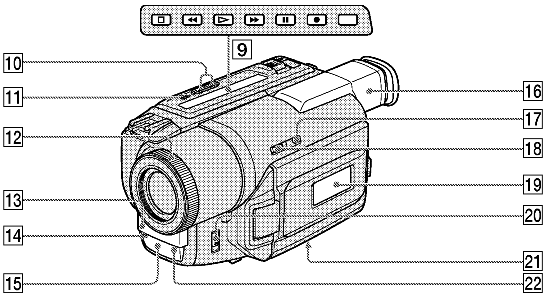
— Оперативный справочник —

Обозначение частей и регуляторов

Видеокамера

1. **Кнопки LCD BRIGHT** (стр. 23)
2. **Кнопка OPEN** (стр. 21)
3. **Кнопки VOLUME** (стр. 33)
4. **Рычаг BATT RELEASE** (стр. 12)
5. **Переключатель POWER** (стр. 21)
6. **Кнопка START/STOP** (стр. 21)
7. **Крючки для плечевого ремня** (стр. 167)
8. **Гнездо DC IN** (стр. 13)

Данный знак означает, что это изделие является подлинной принадлежностью для видеоаппаратуры Sony. При покупке видеоаппаратуры Sony рекомендуется приобретать для нее принадлежности Sony с таким знаком "GENUINE VIDEO ACCESSORIES".



9 **Video control buttons** (p. 33, 36)
■ STOP (stop)
◀◀ REW (rewind)
▶ PLAY (playback)
▶▶ FF (fastforward)
❚❚ PAUSE (pause)
● REC (recording) (DCR-TRV620E only)
The control buttons light up when you set the POWER switch to VTR (DCR-TRV620E) or PLAYER (DCR-TRV420E/TRV520E).

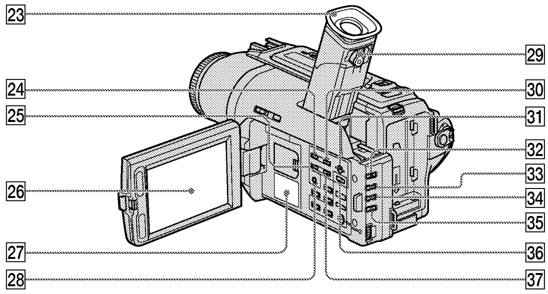
10 **EDITSEARCH buttons** (p. 31)
11 **S. LASER LINK button** (p. 40)
12 **Focus ring** (p. 57)
13 **Microphone**
14 **Camera recording lamp** (p. 21)
15 **Infrared rays emitter** (p. 28, 40)
16 **Viewfinder** (p. 25)
17 **SUPER NIGHTSHOT button** (p. 28)
18 **NIGHTSHOT switch** (p. 28)
19 **Display window** (p. 172)
20 **FOCUS switch** (p. 57)
21 **Tripod receptacle** (base)
Make sure that the length of the tripod screw is less than 6.5 mm (9/32 inch). Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.
22 **Remote sensor**

What is SUPER LASER LINK?
The super laser link system sends and receives pictures and sound between video equipment having the super laser link mark 🗲 by using infrared rays.

9 **Кнопки видеоконтроля** (стр. 33, 36)
■ STOP (остановка)
◀◀ REW (ускоренная перемотка назад)
▶ PLAY (воспроизведение
▶▶ FF (ускоренная перемотка вперед)
❚❚ PAUSE (пауза)
● REC (запись) (только DCR-TRV620E)
Кнопки контроля высвечиваются при установке переключателя POWER в положение VTR (DCR-TRV620E) или PLAYER (DCR-TRV420E/TRV520E).

10 **Кнопка EDITSEARCH** (стр. 31)
11 **Кнопка S.LASER LINK** (стр. 40)
12 **Кольцо фокусировки** (стр. 57)
13 **Микрофон**
14 **Лампа записи видеокамеры** (стр. 21)
15 **Излучатель инфракрасных лучей** (стр. 28, 40)
16 **Видоискатель** (стр. 25)
17 **Кнопка SUPER NIGHTSHOT** (стр. 28)
18 **Переключатель NIGHTSHOT** (стр. 28)
19 **Окошко дисплея** (стр. 172)
20 **Переключатель FOCUS** (стр. 57)
21 **Гнездо для треноги** (основание)
Убедитесь, что длина винта треноги менее 6,5 мм. В противном случае Вы не сможете надежно прикрепить треногу, а винт может повредить Вашу видеокамеру.
22 **Датчик дистанционного управления**

Что такое SUPER LASE LINK?
Система лазерного суперканала передачи сигналов посылает и принимает изображения и звук между видеоаппаратурой 🗲, имеющей знак лазерного суперканала передачи сигналов , с помощью инфракрасных лучей.

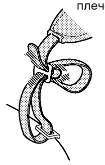


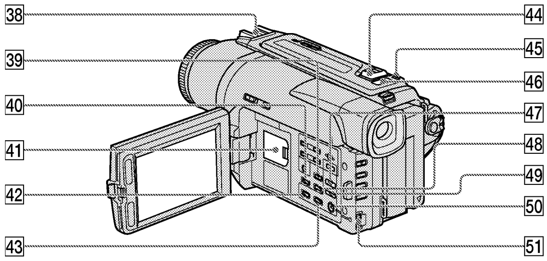
23 **Eyecup**
24 **MEMORY PLAY button** (p. 119)
25 **MEMORY – button** (p. 111, 119)
26 **LCD screen** (p. 23)
27 **Speaker**
28 ⏲ **(self-timer) button** (p. 30)
29 **Viewfinder lens adjustment lever** (p. 25)
30 **MEMORY INDEX button** (p. 121)
31 **MEMORY DELETE button** (p. 130)
32 **FADER button** (p. 47)
33 **BACK LIGHT button** (p. 27)
34 **PROGRAM AE button** (p. 55)
35 **EXPOSURE button** (p. 56)
36 **MEMORY MIX button** (p. 111)
37 **MEMORY + button** (p. 111, 119)

Attaching the shoulder strap
Attach the shoulder strap supplied with your camcorder to the hooks for the shoulder strap.

23 **Окуляр**
24 **Кнопка MEMORY PLAY** (стр. 119)
25 **Кнопка MEMORY –** (стр. 111, 119)
26 **Экран ЖКД** (стр. 23)
27 **Динамик**
28 **Кнопка ⏲ (таймер самозапуска)** (стр. 30)
29 **Рычаг регулировки объектива видоискателя** (стр. 25)
30 **Кнопка MEMORY INDEX** (стр. 121)
31 **Кнопка MEMORY DELETE** (стр. 130)
32 **Кнопка FADER** (стр. 47)
33 **Кнопка BACK LIGHT** (стр. 27)
34 **Кнопка PROGRAM AE** (стр. 55)
35 **Кнопка EXPOSURE** (стр. 56)
36 **Кнопка MEMORY MIX** (стр. 111)
37 **Кнопка MEMORY +** (стр. 111, 119)

Прикрепление плечевого ремня
Прикрепите плечевой ремень, прилагаемый к Вашей видеокамере, к крючкам для плечевого ремня.





38 **Intelligent accessory shoe**
39 **DATA CODE button** (p. 34)
40 **DISPLAY button** (p. 34)
41 **Lithium battery compartment** (p. 140)
42 **PB ZOOM button** (p. 66, 125)
43 **TITLE button** (p. 59)
44 **Power Zoom lever** (p. 24)
45 **PHOTO button** (p. 41, 105)
46 **"Memory Stick" lamp**
This lamp lights up while "Memory Stick" is in the "Memory Stick" compartment.
47 **DIGITAL EFFECT button** (p. 52, 65)
48 **END SEARCH button** (p. 31)
49 **PICTURE EFFECT button** (p. 50, 64)
50 **MENU button** (p. 45, 85)
51 **SEL/PUSH EXEC dial** (p. 45, 85)

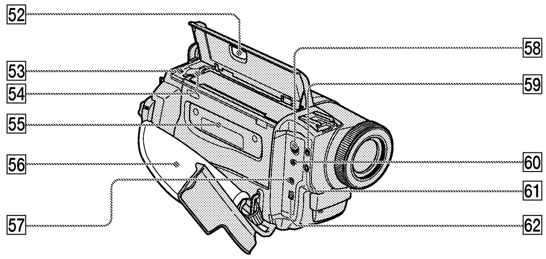
Intelligent
Accessory Shoe

Notes on the intelligent accessory shoe
- The intelligent accessory shoe supplies power to optional accessories such as a video light or microphone.
- The intelligent accessory shoe is linked to the POWER switch, allowing you to turn the power supplied by the shoe on and off. Refer to the operating instructions of the accessory for further information.
- The intelligent accessory shoe has a safety device for fixing the installed accessory securely. To connect an accessory, press down and push it to the end, and then tighten the screw.
- To remove an accessory, loosen the screw, and then press down and pull out the accessory.

38 **Держатель для установки принадлежностей**
39 **Кнопка DATA CODE** (стр. 34)
40 **Кнопка DISPLAY** (стр. 34)
41 **Отсек литиевой батарейки** (стр. 140)
42 **Кнопка PB ZOOM** (стр. 66, 125)
43 **Кнопка TITLE** (стр. 59)
44 **Рычаг приводного вариообъектива** (стр. 24)
45 **Кнопка PHOTO** (стр. 41, 105)
46 **Лампочка "Memory Stick"**
Эта лампочка высвечивается в то время, когда "Memory Stick" вставлена в отсек "Memory Stick".
47 **Кнопка DIGITAL EFFECT** (стр. 52, 65)
48 **Кнопка END SEARCH** (стр. 31)
49 **Кнопка PICTURE EFFECT** (стр. 50, 64)
50 **Кнопка MENU** (стр. 45, 85)
51 **Диск SEL/PUSH EXEC** (стр. 45, 85)

Intelligent
Accessory Shoe

Примечания относительно держателя для установки принадлежностей
- Держатель для установки принадлежностей подает питание на вспомогательные принадлежности, такие как видеоподсветка или микрофон.
- Держатель для установки принадлежностей связан с переключателем POWER, позволяя Вам включать и выключать подаваемое через держатель питание. Подробные сведения приведены в инструкции по эксплуатации вспомогательных принадлежностей.
- В держателе для установки вспомогательных принадлежностей имеется предохранительное устройство для надежной фиксации установленной принадлежности. Для подсоединения принадлежности нажмите ее вниз и нажмите до упора, а затем затяните винт.
- Для снятия принадлежности ослабьте винт, а затем нажмите принадлежность вниз и потяните ее.

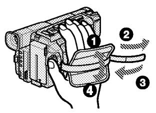


52 **EJECT button** (p. 19)
53 **Access lamp** (p. 102)
54 **"Memory Stick" compartment** (p. 102)
55 **Cassette compartment** (p. 19)
56 **Grip strap**
57 **LANC ⏀/DIGITAL I/O jack**
LANC stands for Local Application Control Bus System. The LANC control jack is used for controlling the tape transport of video equipment and other peripherals connected to the video equipment. This jack has the same function as the jack indicated as CONTROL L or REMOTE.
58 **S VIDEO jack** (p. 38)
59 🎧 **(headphones) jack**
60 **AUDIO/VIDEO jack** (p. 38, 44, 73, 116)
61 **MIC (PLUG IN POWER) jack**
Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone.
62 **i DV IN/OUT or i DV OUT jack** (p. 75, 116)
The i DV IN/OUT or i DV OUT jack is i.LINK compatible.

52 **Кнопка EJECT** (стр. 19)
53 **Лампочка доступа** (стр. 102)
54 **Отсек "Memory Stick"** (стр. 102)
55 **Кассетный отсек** (стр. 19)
56 **Ремень для захвата**
57 **Гнездо LANC ⏀/DIGITAL I/O**
LANC означает систему канала местного управления. Гнездо управления LANC используется для контроля за перемещением ленты видеоаппаратуры и периферийных устройств, подключенных к ней. Данное гнездо имеет такую же функцию, как и разъемы, обозначенные как CONTROL L или REMOTE.
58 **Гнездо S VIDEO** (стр. 38)
59 **Гнездо 🎧 (головные телефоны)**
60 **Гнездо AUDIO/VIDEO** (стр. 38, 44, 73, 116)
61 **Гнездо MIC (PLUG IN POWER)**
Для подсоединения внешнего микрофона (не прилагается). Это гнездо также позволяет подключить микрофон "с выключателем питания".
62 **Гнездо i DV IN/OUT или i DV OUT** (стр. 75, 116)
Гнездо i DV IN/OUT или i DV OUT совместимо с каналом передачи сигналов i.LINK.

Fastening the grip strap

Пристегивание ремня для захвата



Fasten the grip strap firmly.

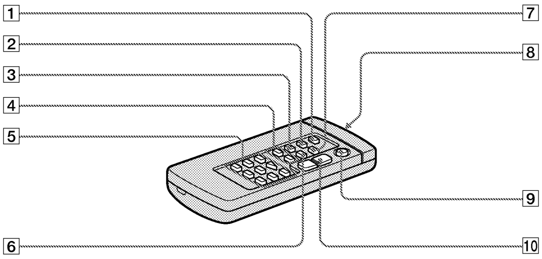
Пристегните ремень для захвата плотно.

Remote Commander

Пульт дистанционного управления

The buttons that have the same name on the Remote Commander as on your camcorder function identically to the buttons on your camcorder.

Кнопки пульта дистанционного управления, которые имеют одинаковые наименования с кнопками на видеокамере, функционируют идентично.



1 **PHOTO button** (p. 41, 105)
2 **DISPLAY button** (p. 34)
3 **SEARCH MODE button** (p. 69, 71)
4 **⏮/⏭ buttons** (p. 68, 71)
5 **Tape transport buttons** (p. 36)
6 **DATA CODE button** (p. 34)
7 **ZERO SET MEMORY button** (p. 63, 68)
8 **Transmitter**
Point toward the remote sensor to control the camcorder after turning on the camcorder.
9 **START/STOP button** (p. 21)
10 **Power zoom button** (p. 24)

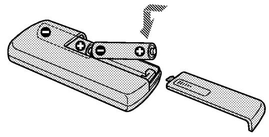
1 **Кнопка PHOTO** (стр. 41, 105)
2 **Кнопка DISPLAY** (стр. 34)
3 **Кнопка SEARCH MODE** (стр. 69, 71)
4 **Кнопки ⏮/⏭** (стр. 68, 71)
5 **Кнопки перемещения ленты** (стр. 36)
6 **Кнопка DATA CODE** (стр. 34)
7 **Кнопка ZERO SET MEMORY** (стр. 63, 68)
8 **Передатчик**
Направьте на датчик для управления видеокамерой после включения видеокамеры.
9 **Кнопка START/STOP** (стр. 21)
10 **Кнопка приводного вариообъектива** (стр. 24)

To prepare the Remote Commander

Insert 2 R6 (size AA) batteries by matching the + and – polarities on the batteries to the + – marks inside the battery compartment.

Для подготовки пульта дистанционного управления

Вставьте две батарейки R6 (размера AA), соблюдая надлежащую полярность + и – на батарейках со знаками + – внутри отсека для батареек.



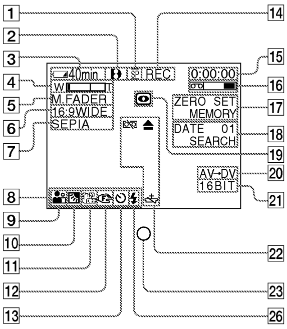
Notes on the Remote Commander
- Point the remote sensor away from strong light sources such as direct sunlight or overhead lighting. Otherwise, the Remote Commander may not function properly.
- Your camcorder works in the Commander mode VTR 2. Commander modes 1, 2 and 3 are used to distinguish your camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in the Commander mode VTR 2, we recommend changing the Commander mode or covering the sensor of the VCR with black paper.

Примечания к пульту дистанционного управления
- Держите дистанционный датчик подальше от сильных источников света, как например, прямые солнечные лучи или иллюминация. В противном случае дистанционное управление может не действовать.
- Данная видеокамера работает в режиме пульта дистанционного управления VTR 2. Режимы пульта дистанционного управления 1, 2 и 3 используются для отличия данной видеокамеры от других КВМ фирмы Sony во избежание неправильной работы дистанционного управления. Если Вы используете другой КВМ фирмы Sony, работающий в режиме VTR 2, мы рекомендуем Вам изменить режим пульта дистанционного управления или закрыть дистанционный датчик КВМ черной бумагой.

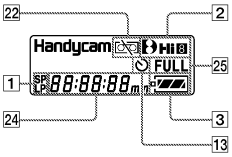
Operation indicators

Функциональные индикаторы

LCD screen and Viewfinder/ Экран ЖКД и видоискатель



Display window/Окошко дисплея



1 **Recording mode indicator** (p. 22)/**Mirror mode indicator** (p. 23)
2 **Format indicator** (p. 135)
Ð, Hi8 or 8 indicator appears.
3 **Remaining battery time indicator** (p. 13, 26)
4 **Zoom indicator** (p. 24)/**Exposure indicator** (p. 56)
5 **Fader indicator** (p. 47)/**Digital effect indicator** (p. 52, 65)
6 **Wide mode indicator** (p. 45)/ **FRAME indicator** (p. 88)
7 **Picture effect indicator** (p. 50, 64)
8 **LCD bright indicator** (p. 23)/**Volume indicator** (p. 33)/**Data code indicator** (p. 35)
9 **PROGRAM AE indicator** (p. 54)
10 **Backlight indicator** (p. 27)
11 **SteadyShot off indicator** (p. 86)
12 **Manual focusing indicator** (p. 57)
13 **Self-timer indicator** (p. 30, 43)

1 **Индикатор режима записи** (стр. 22)/ **индикатор зеркального режима** (стр. 23)
2 **Индикатор формата** (стр. 135)
Появится индикатор Ð, Hi8 или 8.
3 **Индикатор времени оставшегося заряда батарейного блока** (стр. 13, 26)
4 **индикатор вариообъектива** (стр. 24)/ **Индикатор экспозиции** (стр. 56)
5 **Индикатор фейдера** (стр. 47)/**индикатор цифрового эффекта** (стр. 52, 65)
6 **Индикатор широкоформатного режима** (стр. 45)/**индикатор FRAME** (стр. 94)
7 **Индикатор эффекта изображения** (стр. 50, 64)
8 **Индикатор яркости ЖКД** (стр. 23)/ **индикатор громкости** (стр. 33)/ **индикатор кода данных** (стр. 35)
9 **Индикатор PROGRAM AE** (стр. 54)
10 **Индикатор задней подсветки** (стр. 27)
11 **Индикатор выключенной функции устойчивой съемки** (стр. 92)
12 **Индикатор ручной фокусировки** (стр. 57)
13 **Индикатор таймера самозапуска** (стр. 30, 43)

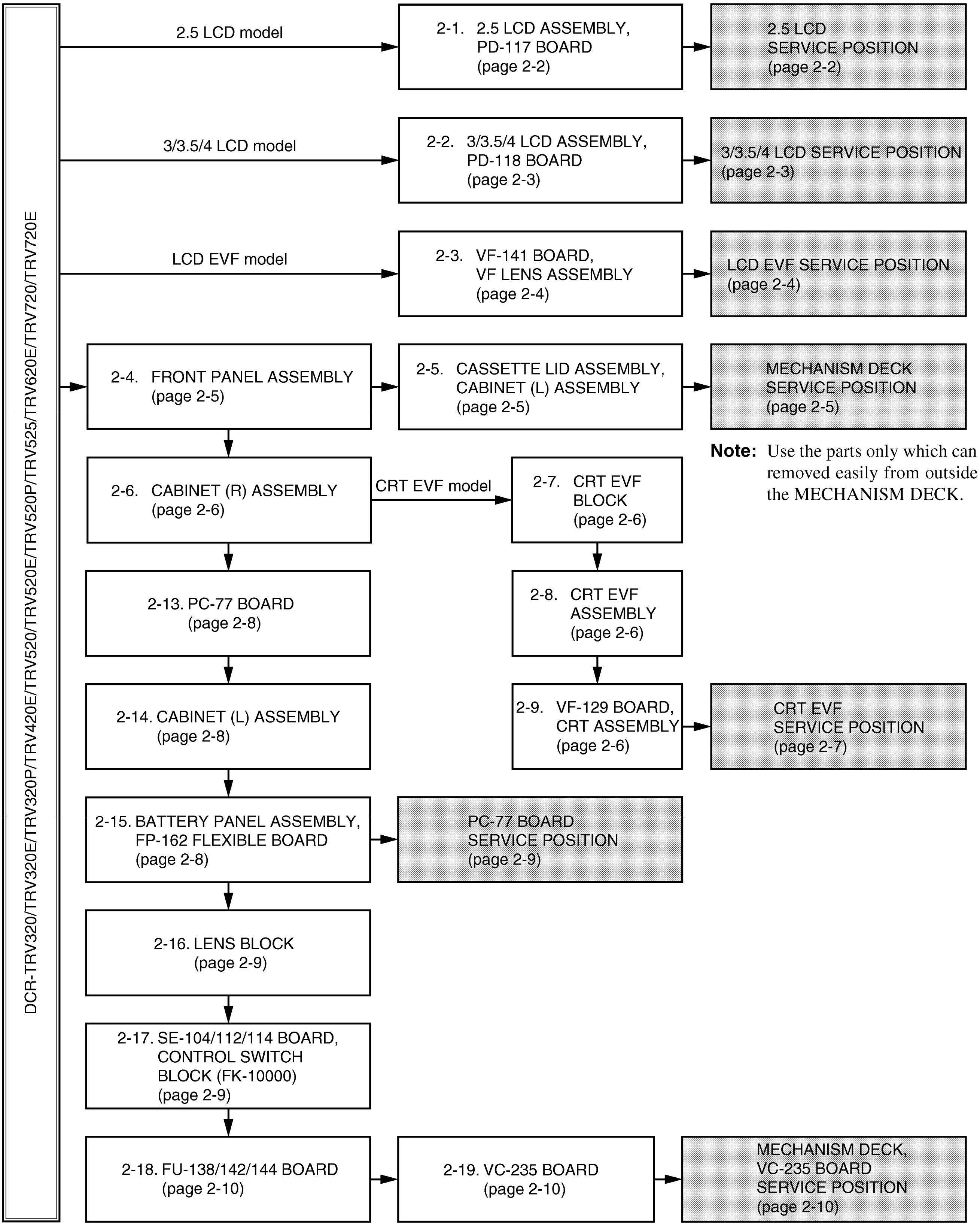
14 **STBY/REC indicator** (p. 21)/**Video control mode** (p. 36)
15 **Tape counter indicator** (p. 26, 63, 68)/**Time code indicator** (p. 26)/**Self-diagnosis display indicator** (p. 146)/**Tape photo recording indicator** (p. 41)
16 **Remaining tape indicator** (p. 26)
17 **ZERO SET MEMORY indicator** (p. 63, 67)
18 **Search mode indicator** (p. 31, 68, 71)
19 **NIGHTSHOT indicator** (p. 28)
20 **A/V → DV indicator** (DCR-TRV620E only) (p. 87)/**DV IN indicator** (p. 82)
21 **Audio mode indicator** (p. 89)
22 **Warning indicators** (p. 147)
23 **Recording lamp** (DCR-TRV420E/TRV520E) (p. 21)
This indicator appears in the viewfinder.
24 **Tape counter indicator** (p. 26, 63, 68)/**Time code indicator** (p. 26)/**Self-diagnosis display indicator** (p. 146)/**Remaining battery time indicator** (p. 13, 26)
25 **FULL charge indicator** (p. 13)
26 **Video flash ready indicator**
This indicator appears when you use the video flash light (not supplied).

14 **Индикатор STBY/REC** (стр. 21)/**режим видеоконтроля** (стр. 36)
15 **Индикатор счетчика ленты** (стр. 26, 63, 68)/ **индикатор кода времени** (стр. 26)/ **индикатор функции самодиагностики** (стр.154)/**индикатор фотосъемки на ленту** (стр. 41)
16 **Индикатор оставшейся ленты** (стр. 26)
17 **Индикатор ZERO SET MEMORY** (стр. 63, 67)
18 **Индикатор режима поиска** (стр. 31, 68, 71)
19 **Индикатор NIGHTSHOT** (стр. 28)
20 **Индикатор A/V → DV** (Только DCR-TRV620E) (стр. 93)/**индикатор DV IN** (стр. 82)
21 **Индикатор аудиорежима** (стр. 95)
22 **Предупреждающие индикаторы** (стр. 155)
23 **Лампочка записи** (DCR-TRV420E/TRV520E) (стр. 21)
Этот индикатор появляется в видоискателе.
24 **Индикатор счетчика ленты** (стр. 26, 63, 68)/ **индикатор кода времени** (стр. 26)/ **индикатор функции самодиагностики** (стр. 154)/**индикатор времени оставшегося заряда батарейного блока** (стр. 13, 26)
25 **Индикатор зарядки FULL** (стр. 13)
26 **Индикатор готовности видеовспышки**
Этот индикатор появляется при использовании видеовспышки (не прилагается).

SECTION 2
DISASSEMBLY

- This set can be disassembled in the order shown below.

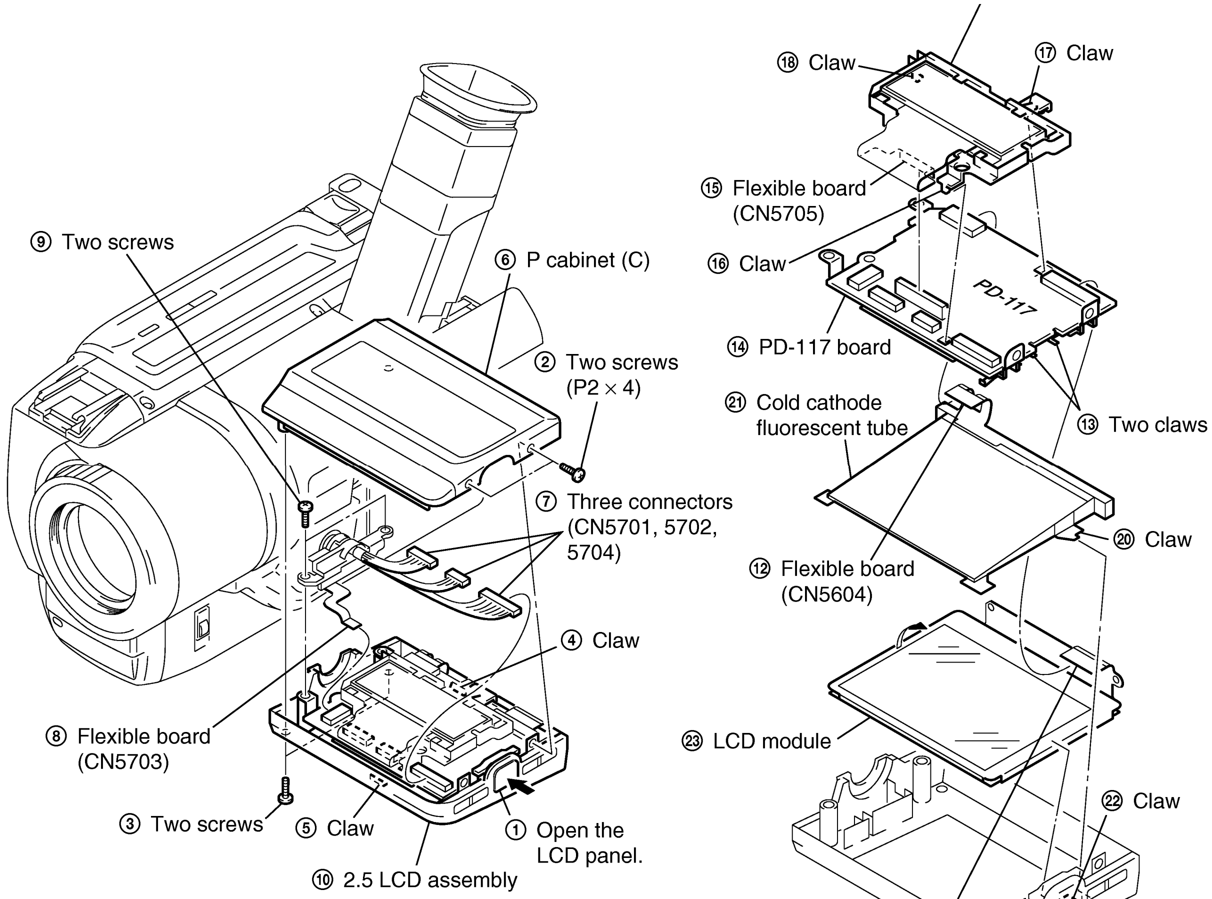
Note: 2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3 LCD model : DCR-TRV420E/TRV525
3.5 LCD model : DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model : DCR-TRV720/TRV720E
LCD EVF model : DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E
CRT EVF model : DCR-TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P


DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E
2.5 LCD model
2-1. 2.5 LCD ASSEMBLY, PD-117 BOARD (page 2-2)
2.5 LCD SERVICE POSITION (page 2-2)
3/3.5/4 LCD model
2-2. 3/3.5/4 LCD ASSEMBLY, PD-118 BOARD (page 2-3)
3/3.5/4 LCD SERVICE POSITION (page 2-3)
LCD EVF model
2-3. VF-141 BOARD, VF LENS ASSEMBLY (page 2-4)
LCD EVF SERVICE POSITION (page 2-4)
2-4. FRONT PANEL ASSEMBLY (page 2-5)
2-5. CASSETTE LID ASSEMBLY, CABINET (L) ASSEMBLY (page 2-5)
MECHANISM DECK SERVICE POSITION (page 2-5)
2-6. CABINET (R) ASSEMBLY (page 2-6)
CRT EVF model
2-7. CRT EVF BLOCK (page 2-6)
2-13. PC-77 BOARD (page 2-8)
2-8. CRT EVF ASSEMBLY (page 2-6)
2-14. CABINET (L) ASSEMBLY (page 2-8)
2-9. VF-129 BOARD, CRT ASSEMBLY (page 2-6)
CRT EVF SERVICE POSITION (page 2-7)
2-15. BATTERY PANEL ASSEMBLY, FP-162 FLEXIBLE BOARD (page 2-8)
PC-77 BOARD SERVICE POSITION (page 2-9)
2-16. LENS BLOCK (page 2-9)
2-17. SE-104/112/114 BOARD, CONTROL SWITCH BLOCK (FK-10000) (page 2-9)
2-18. FU-138/142/144 BOARD (page 2-10)
2-19. VC-235 BOARD (page 2-10)
MECHANISM DECK, VC-235 BOARD SERVICE POSITION (page 2-10)

Note: Use the parts only which can be removed easily from outside of the MECHANISM DECK.

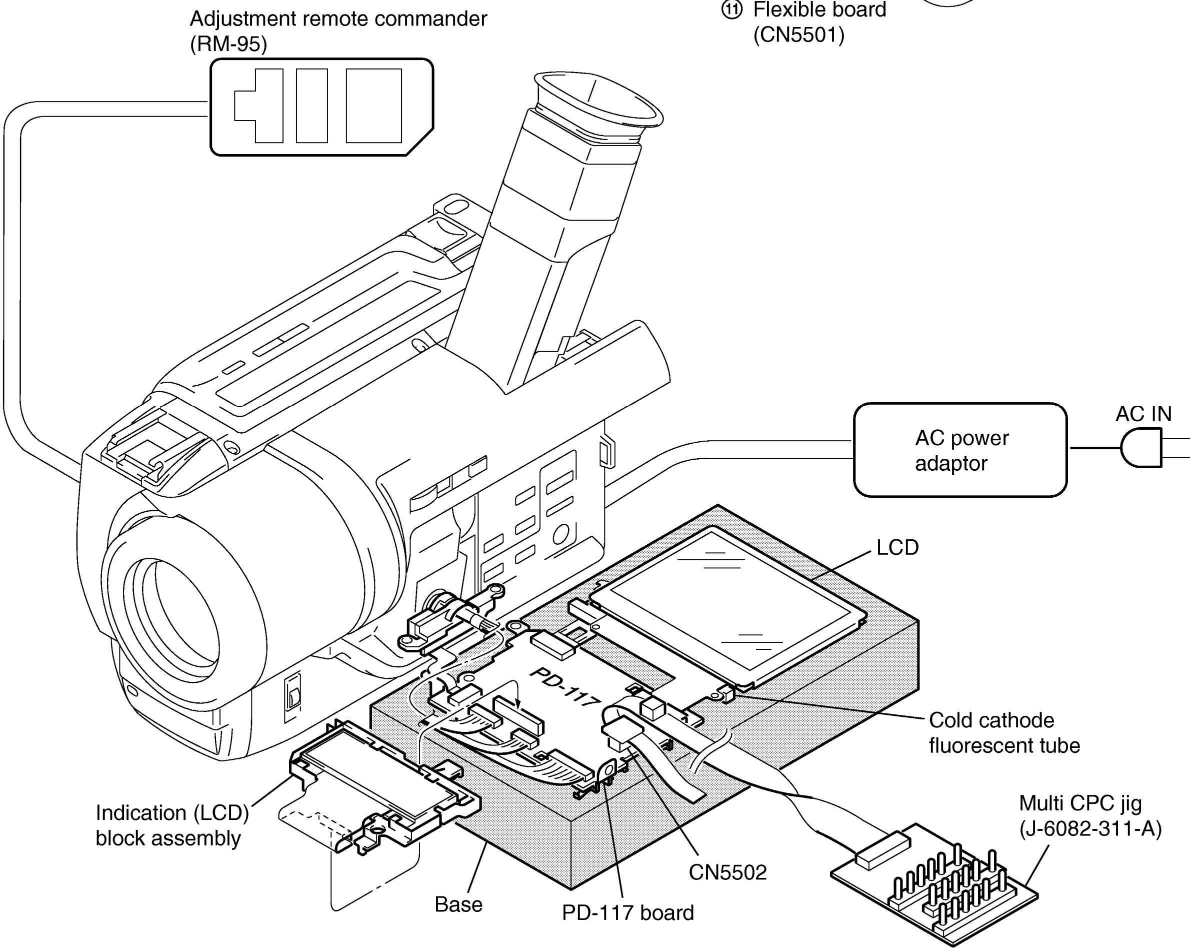
Note: Follow the disassembly procedure in the numerical order given.

2-1. 2.5 LCD ASSEMBLY, PD-117 BOARD



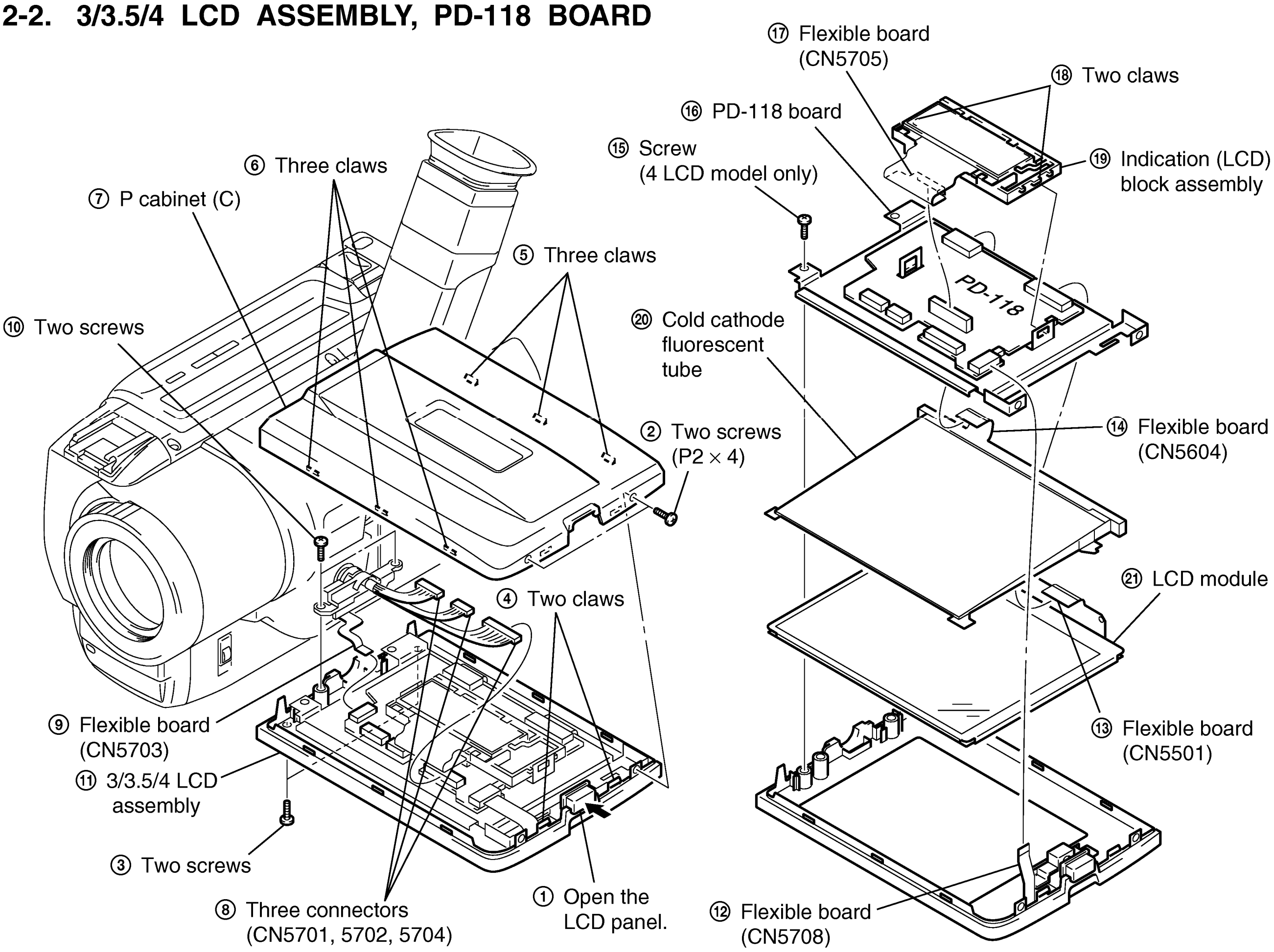
⑲ Indication (LCD) block assembly
⑱ Claw
⑰ Claw
⑮ Flexible board (CN5705)
⑨ Two screws
⑥ P cabinet (C)
⑯ Claw
PD-117
⑭ PD-117 board
② Two screws (P2 × 4)
㉑ Cold cathode fluorescent tube
⑬ Two claws
⑦ Three connectors (CN5701, 5702, 5704)
⑳ Claw
⑫ Flexible board (CN5604)
④ Claw
⑧ Flexible board (CN5703)
㉓ LCD module
㉒ Claw
③ Two screws
⑤ Claw
① Open the LCD panel.
⑩ 2.5 LCD assembly
⑪ Flexible board (CN5501)

[2.5 LCD SERVICE POSITION]

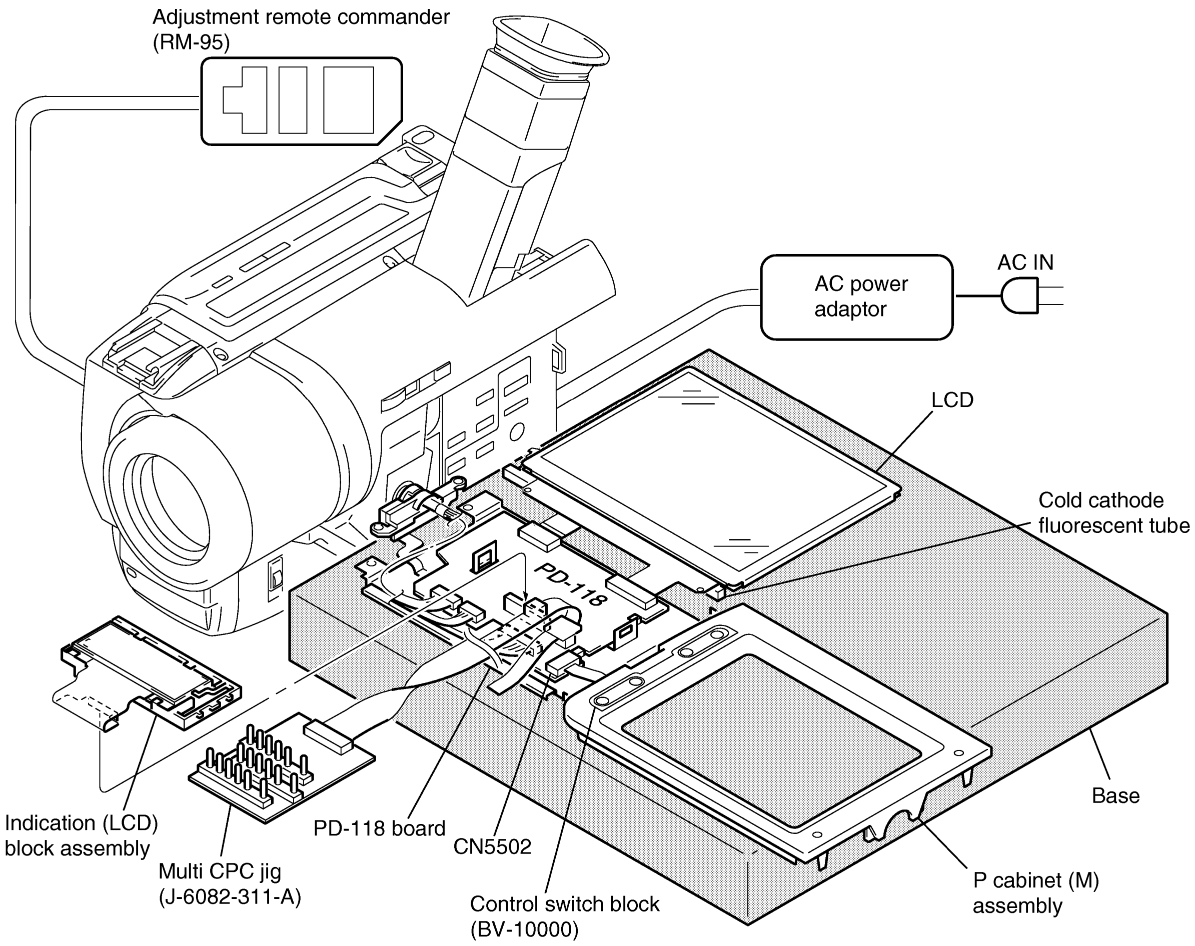


Adjustment remote commander (RM-95)
AC IN
AC power adaptor
LCD
PD-117
Cold cathode fluorescent tube
Multi CPC jig (J-6082-311-A)
Indication (LCD) block assembly
CN5502
Base
PD-117 board

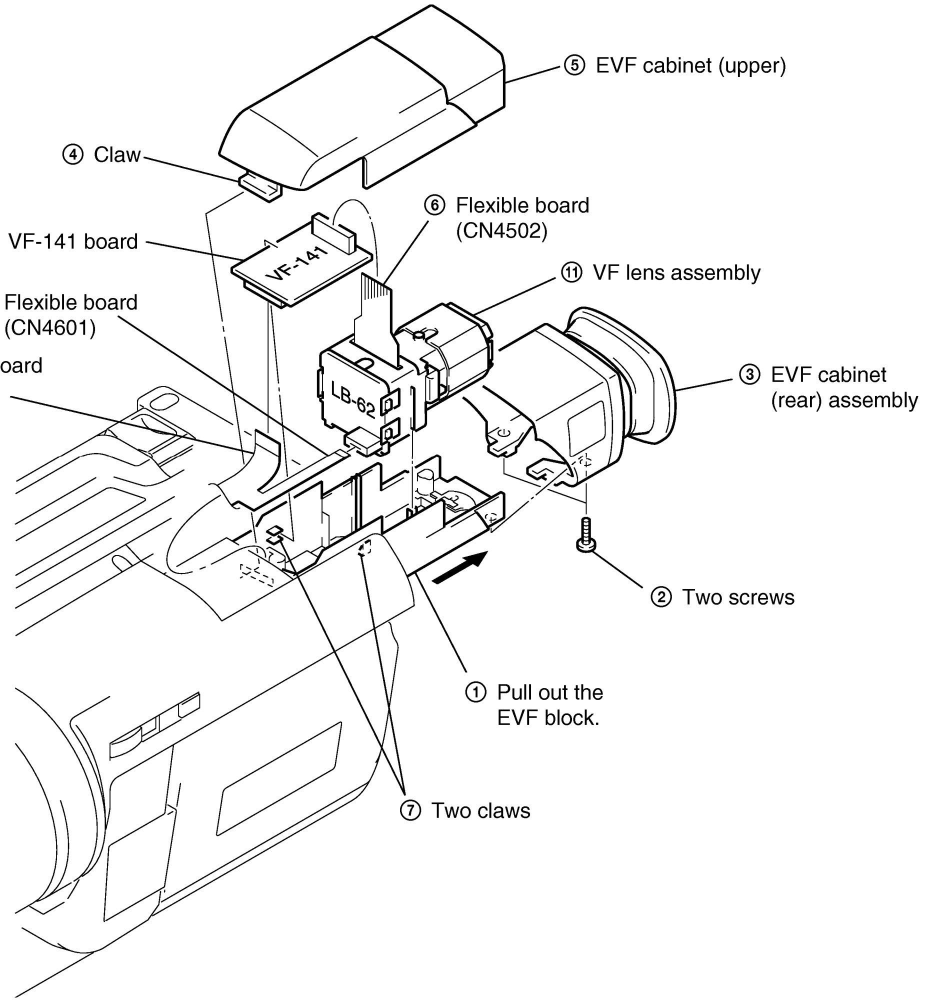
2-2. 3/3.5/4 LCD ASSEMBLY, PD-118 BOARD


⑰ Flexible board (CN5705)
⑱ Two claws
⑯ PD-118 board
⑮ Screw (4 LCD model only)
⑲ Indication (LCD) block assembly
⑥ Three claws
⑦ P cabinet (C)
⑤ Three claws
⑩ Two screws
⑳ Cold cathode fluorescent tube
PD-118
② Two screws (P2 × 4)
⑭ Flexible board (CN5604)
④ Two claws
㉑ LCD module
⑨ Flexible board (CN5703)
⑬ Flexible board (CN5501)
⑪ 3/3.5/4 LCD assembly
③ Two screws
⑧ Three connectors (CN5701, 5702, 5704)
① Open the LCD panel.
⑫ Flexible board (CN5708)

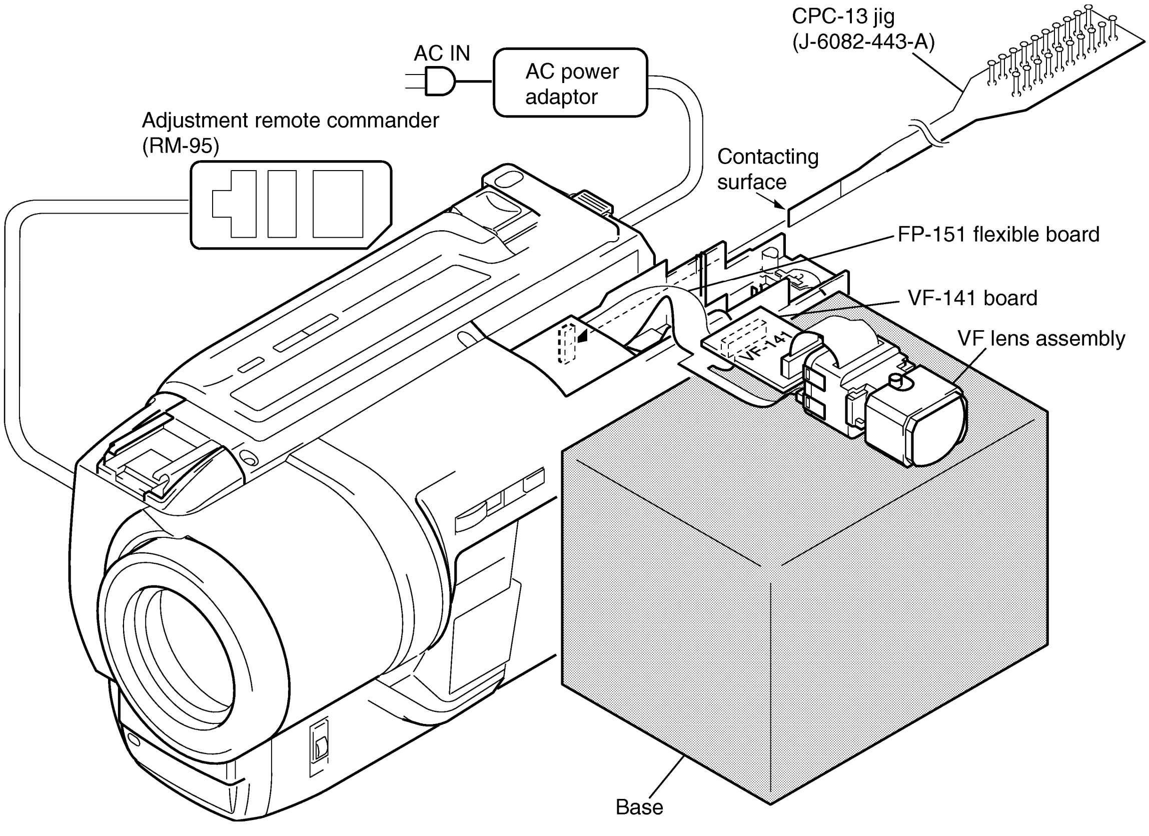
[3/3.5/4 LCD SERVICE POSITION]


Adjustment remote commander (RM-95)
AC power adaptor
AC IN
LCD
Cold cathode fluorescent tube
PD-118
Base
Indication (LCD) block assembly
PD-118 board
CN5502
Multi CPC jig (J-6082-311-A)
Control switch block (BV-10000)
P cabinet (M) assembly

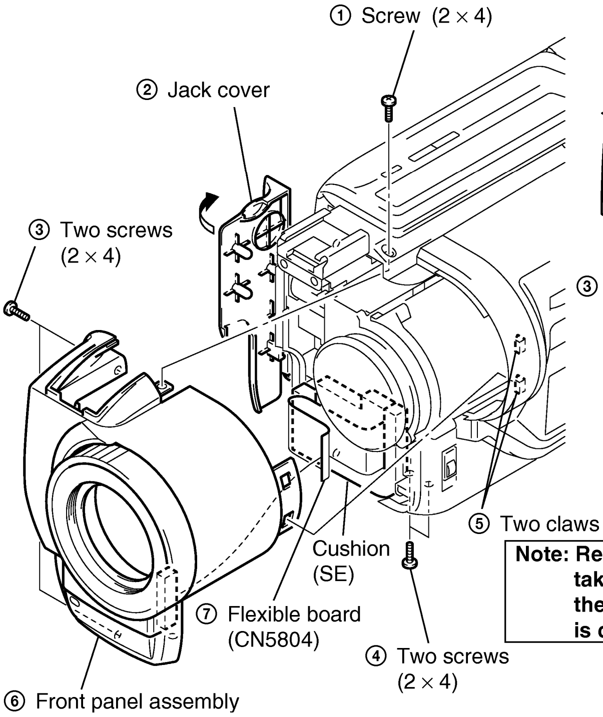
2-3. VF-141 BOARD, VF LENS ASSEMBLY (LCD EVF model)


⑤ EVF cabinet (upper)
④ Claw
⑥ Flexible board (CN4502)
⑧ VF-141 board
VF-141
⑪ VF lens assembly
⑩ Flexible board (CN4601)
⑨ Flexible board (CN4501)
LB-62
③ EVF cabinet (rear) assembly
② Two screws
① Pull out the EVF block.
⑦ Two claws

[LCD EVF SERVICE POSITION]

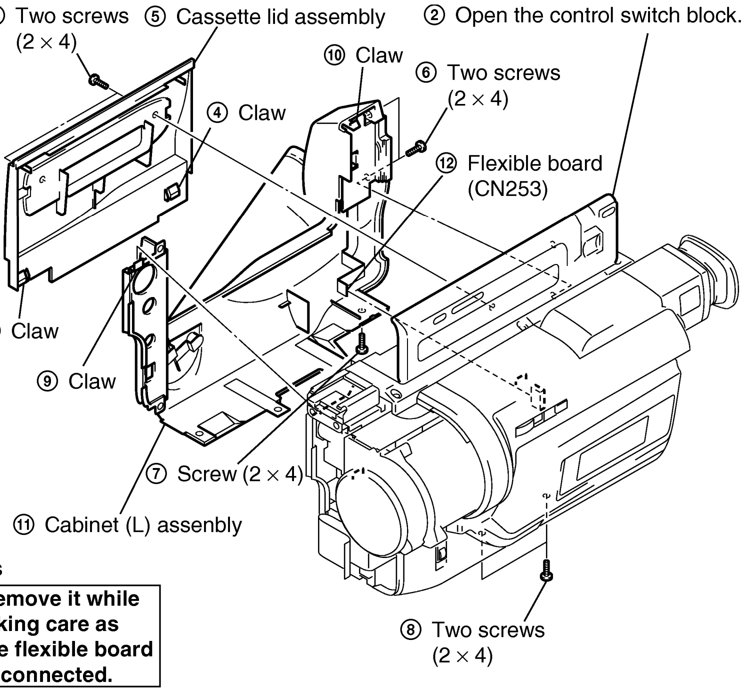

CPC-13 jig (J-6082-443-A)
AC IN
AC power adaptor
Adjustment remote commander (RM-95)
Contacting surface
FP-151 flexible board
VF-141 board
VF-141
VF lens assembly
Base

2-4. FRONT PANEL ASSEMBLY


① Screw (2 × 4)
② Jack cover
③ Two screws (2 × 4)
Cushion (SE)
⑦ Flexible board (CN5804)
④ Two screws (2 × 4)
⑤ Two claws
⑥ Front panel assembly

Note: Remove it while taking care as the flexible board is connected.

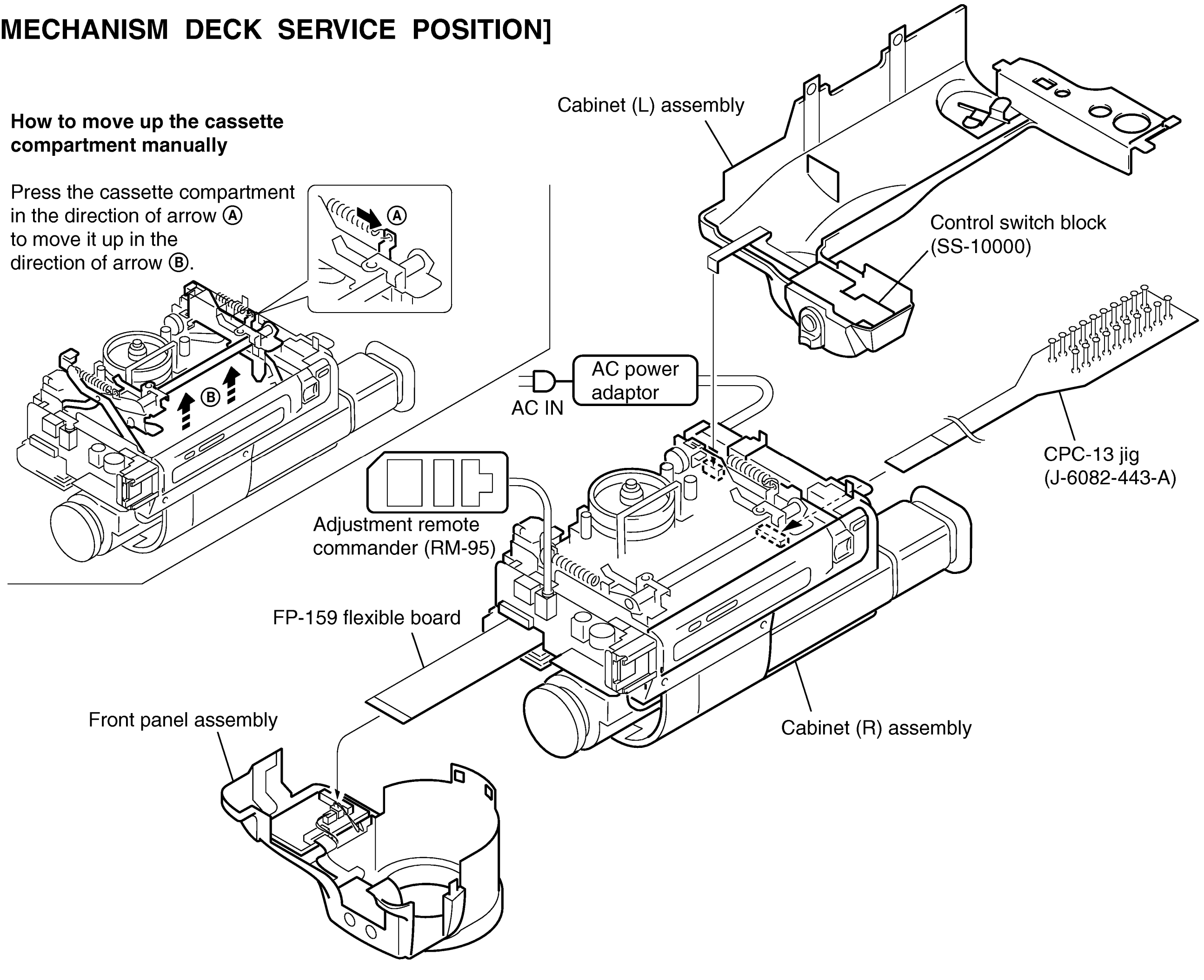
2-5. CASSETTE LID ASSEMBLY, CABINET (L) ASSEMBLY


① Two screws (2 × 4)
⑤ Cassette lid assembly
② Open the control switch block.
⑩ Claw
⑥ Two screws (2 × 4)
④ Claw
⑫ Flexible board (CN253)
③ Claw
⑨ Claw
⑦ Screw (2 × 4)
⑪ Cabinet (L) assembly
⑧ Two screws (2 × 4)

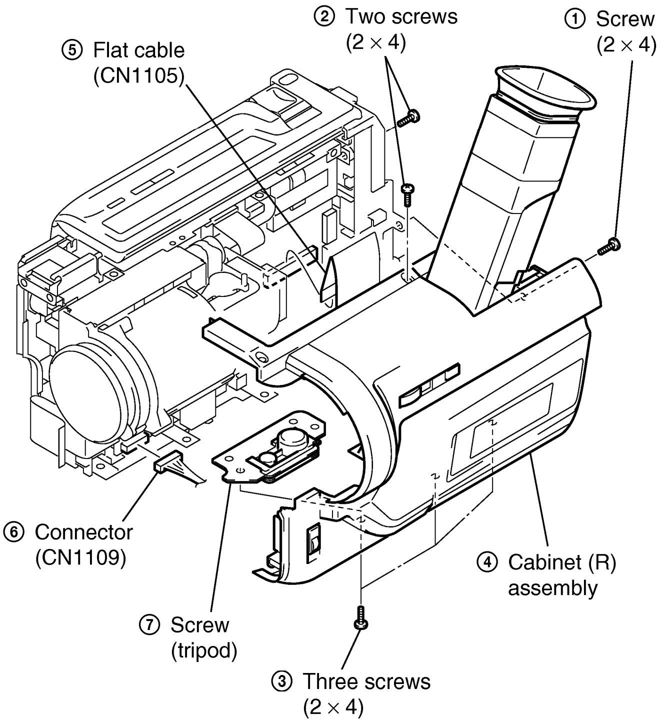
[MECHANISM DECK SERVICE POSITION]

- **How to move up the cassette compartment manually**

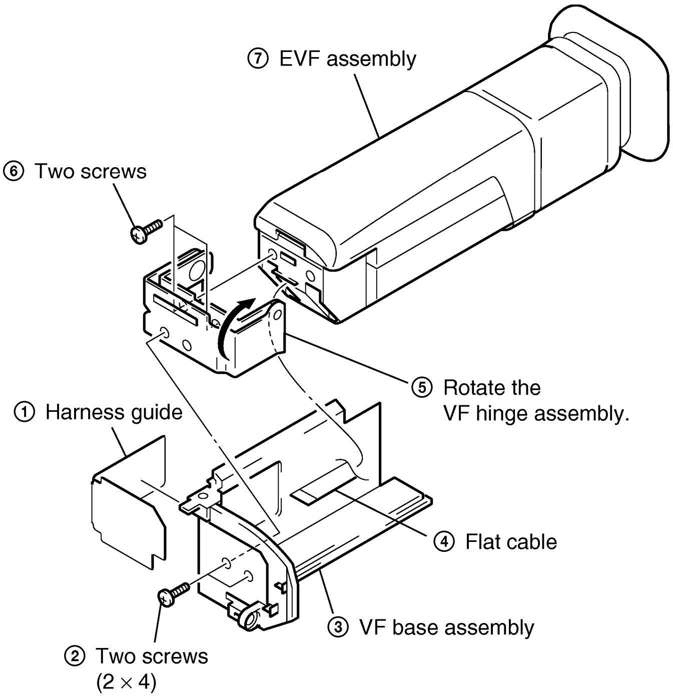
Press the cassette compartment in the direction of arrow Ⓐ to move it up in the direction of arrow Ⓑ.


Ⓐ
Ⓑ
Cabinet (L) assembly
Control switch block (SS-10000)
AC power adaptor
AC IN
CPC-13 jig (J-6082-443-A)
Adjustment remote commander (RM-95)
FP-159 flexible board
Front panel assembly
Cabinet (R) assembly

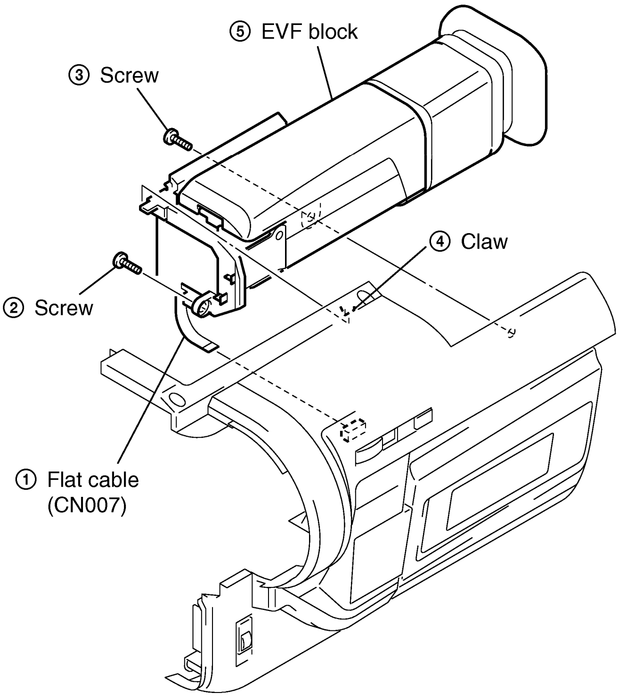
2-6. CABINET (R) ASSEMBLY


② Two screws
(2 × 4)
① Screw
(2 × 4)
⑤ Flat cable
(CN1105)
⑥ Connector
(CN1109)
④ Cabinet (R)
assembly
⑦ Screw
(tripod)
③ Three screws
(2 × 4)

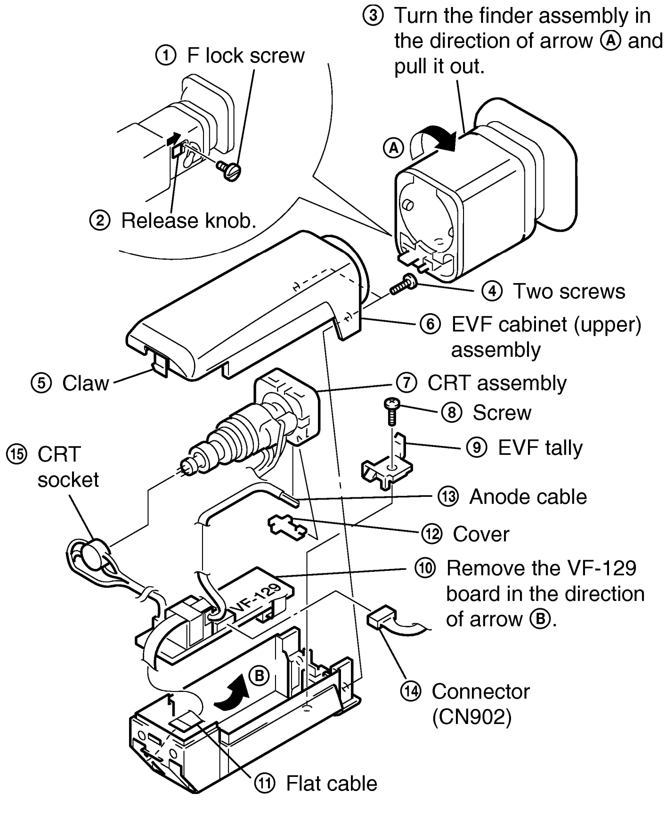
2-8. CRT EVF ASSEMBLY


⑦ EVF assembly
⑥ Two screws
⑤ Rotate the
VF hinge assembly.
① Harness guide
④ Flat cable
③ VF base assembly
② Two screws
(2 × 4)

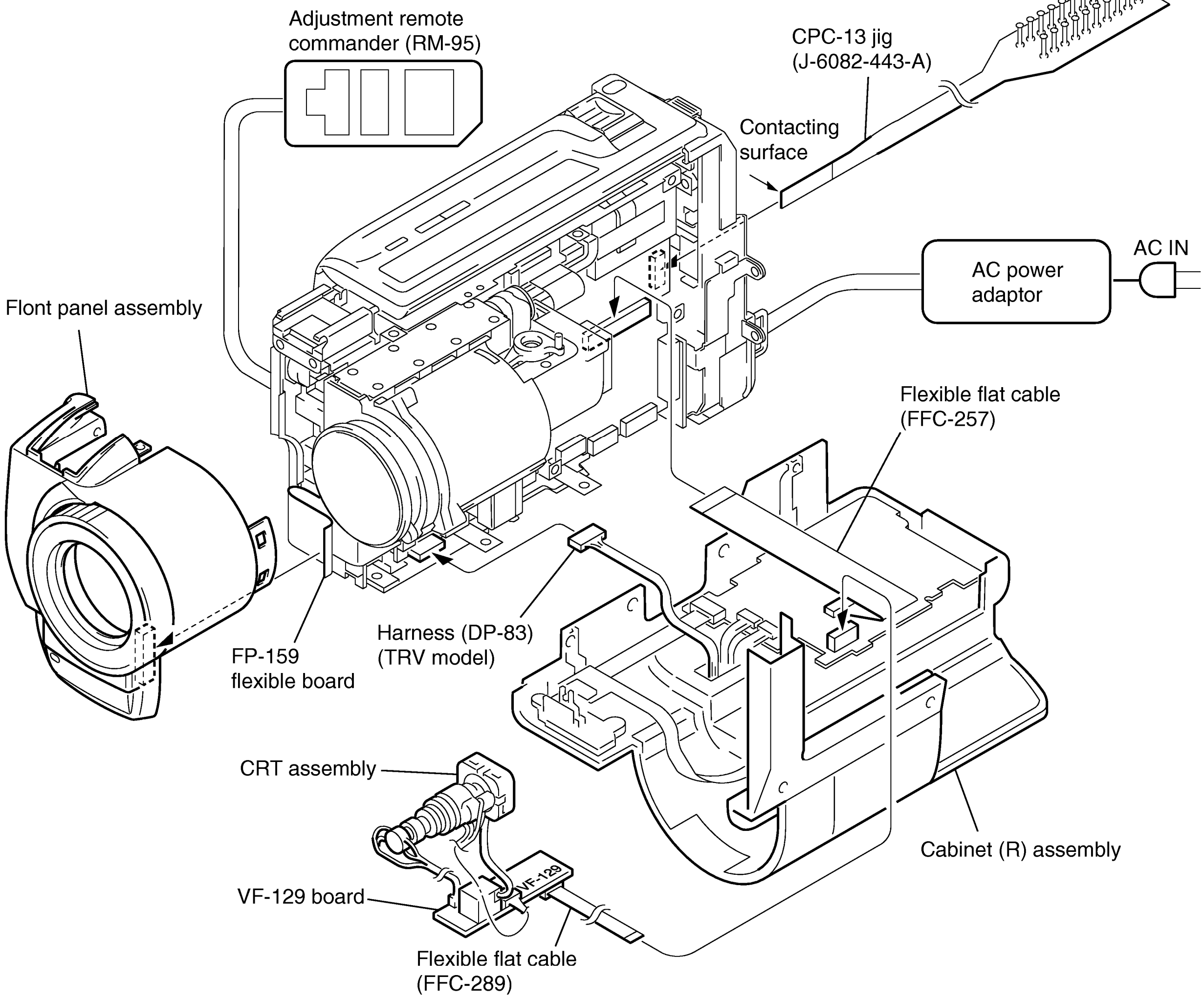
2-7. CRT EVF BLOCK


⑤ EVF block
③ Screw
④ Claw
② Screw
① Flat cable
(CN007)

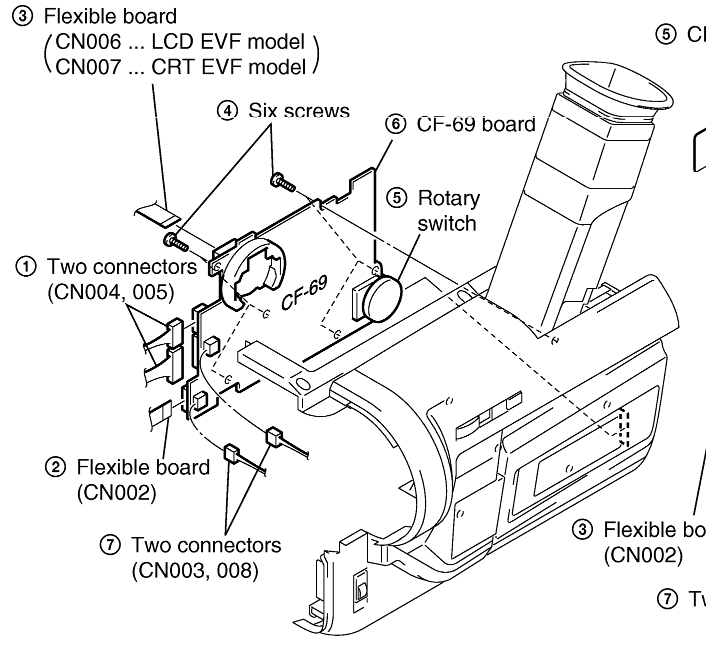
2-9. VF-129 BOARD, CRT ASSEMBLY


③ Turn the finder assembly in
the direction of arrow Ⓐ and
pull it out.
① F lock screw
Ⓐ
② Release knob.
④ Two screws
⑥ EVF cabinet (upper)
assembly
⑤ Claw
⑦ CRT assembly
⑧ Screw
⑨ EVF tally
⑮ CRT
socket
⑬ Anode cable
⑫ Cover
⑩ Remove the VF-129
board in the direction
of arrow Ⓑ.
VF-129
Ⓑ
⑭ Connector
(CN902)
⑪ Flat cable

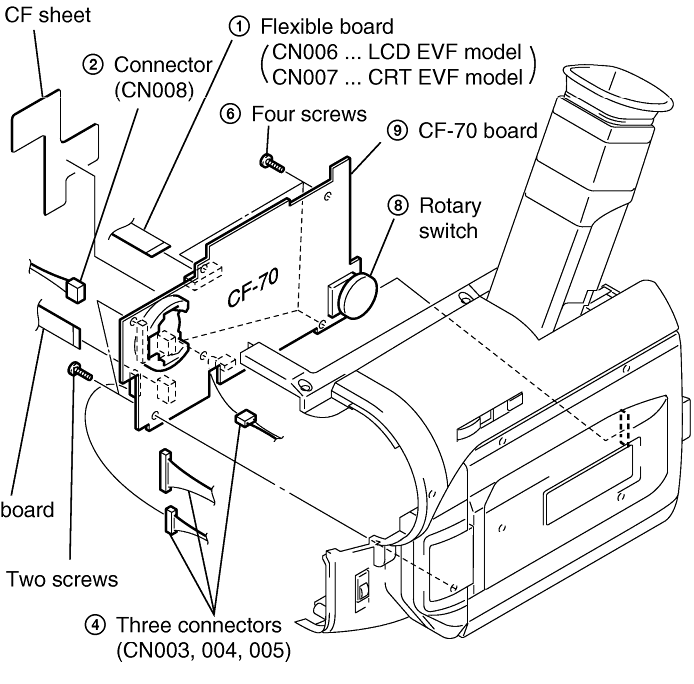
[CRT EVF SERVICE POSITION]


Adjustment remote commander (RM-95)
CPC-13 jig (J-6082-443-A)
Contacting surface
AC IN
AC power adaptor
Flont panel assembly
Flexible flat cable (FFC-257)
Harness (DP-83) (TRV model)
FP-159 flexible board
CRT assembly
VF-129 board
VF-129
Flexible flat cable (FFC-289)
Cabinet (R) assembly

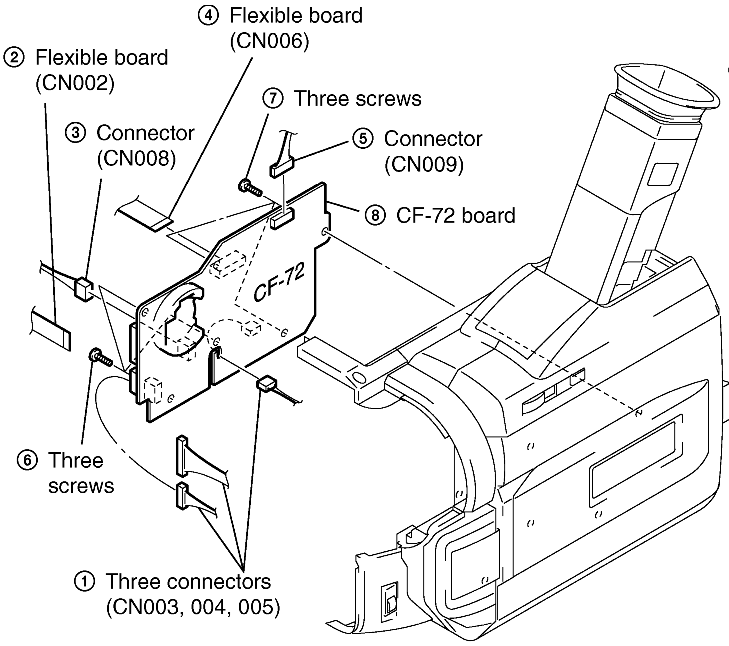
2-10. CF-69 BOARD (2.5 LCD model)


③ Flexible board
(CN006 ... LCD EVF model)
(CN007 ... CRT EVF model)
④ Six screws
⑥ CF-69 board
⑤ Rotary switch
① Two connectors (CN004, 005)
CF-69
② Flexible board (CN002)
⑦ Two connectors (CN003, 008)

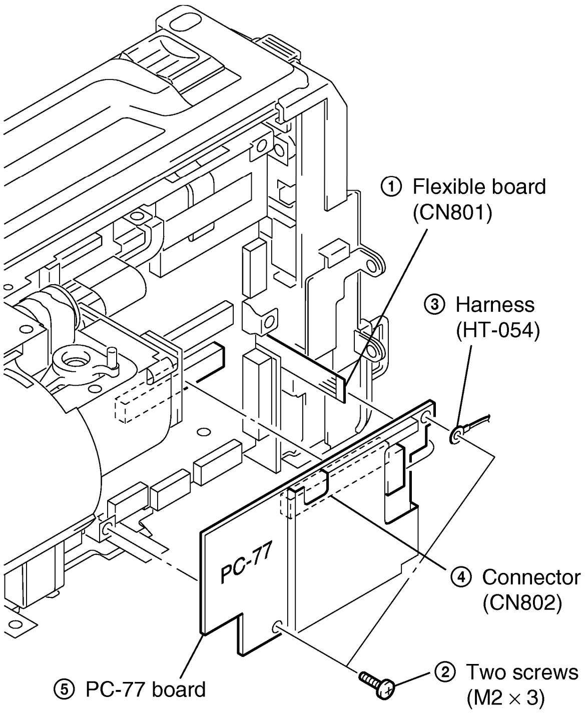
2-11. CF-70 BOARD (3/3.5 LCD model)


⑤ CF sheet
② Connector (CN008)
① Flexible board
(CN006 ... LCD EVF model)
(CN007 ... CRT EVF model)
⑥ Four screws
⑨ CF-70 board
⑧ Rotary switch
CF-70
③ Flexible board (CN002)
⑦ Two screws
④ Three connectors (CN003, 004, 005)

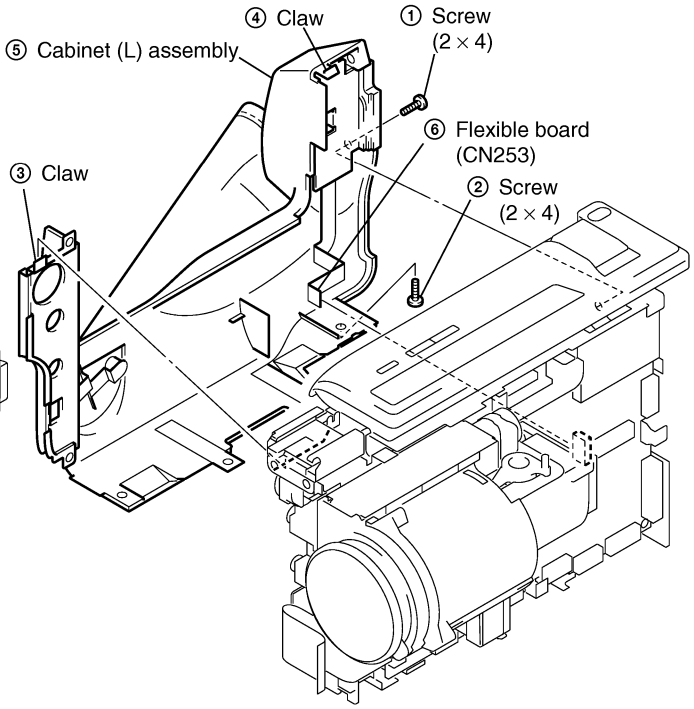
2-12. CF-72 BOARD (4 LCD model)


④ Flexible board (CN006)
② Flexible board (CN002)
⑦ Three screws
③ Connector (CN008)
⑤ Connector (CN009)
⑧ CF-72 board
CF-72
⑥ Three screws
① Three connectors (CN003, 004, 005)

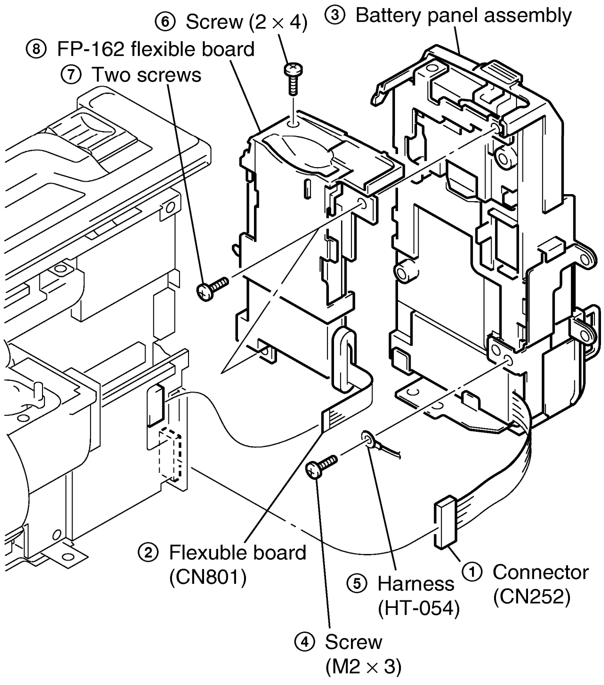
2-13. PC-77 BOARD


① Flexible board (CN801)
③ Harness (HT-054)
④ Connector (CN802)
PC-77
② Two screws (M2 × 3)
⑤ PC-77 board

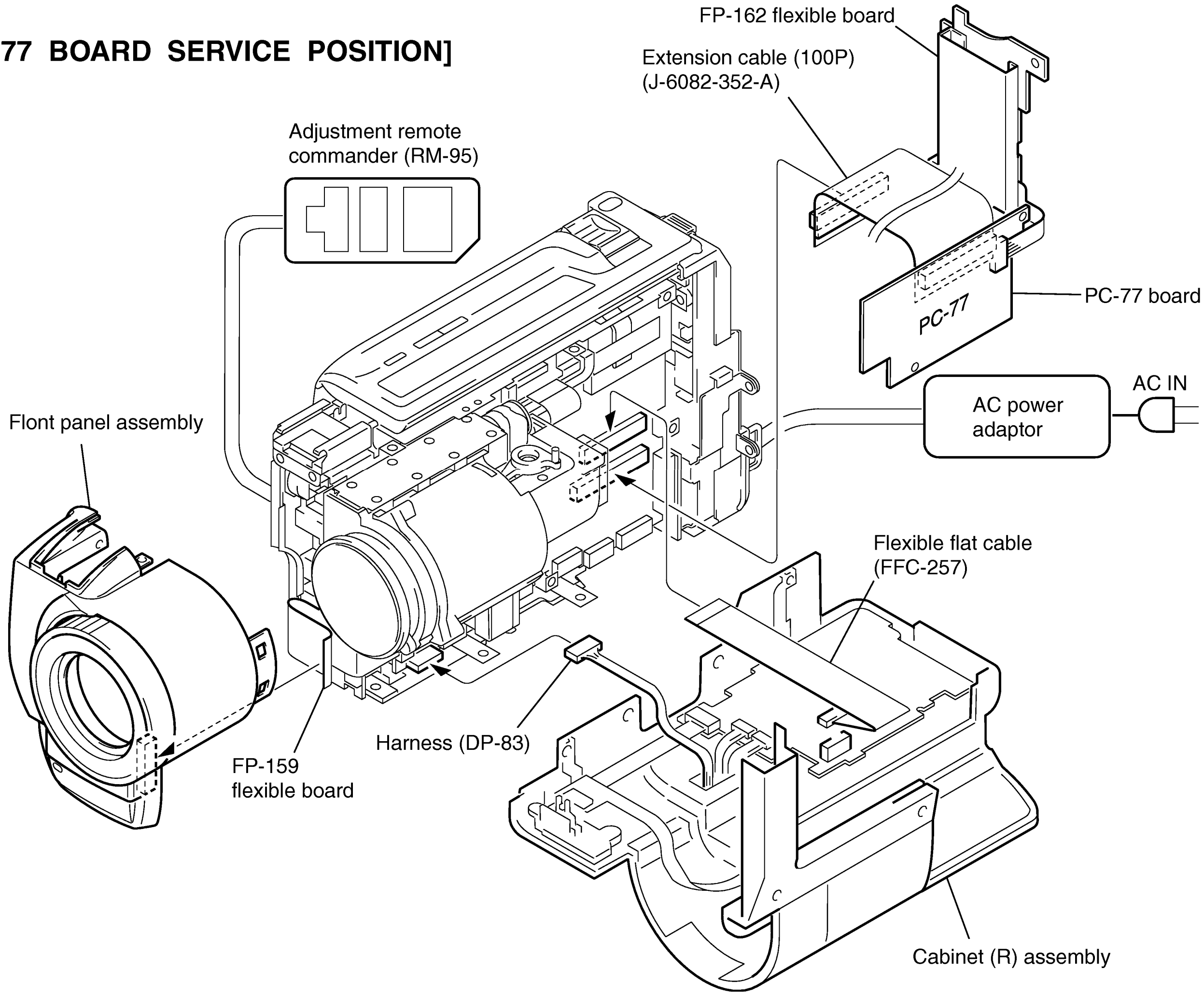
2-14. CABINET (L) ASSEMBLY


④ Claw
① Screw (2 × 4)
⑤ Cabinet (L) assembly
⑥ Flexible board (CN253)
③ Claw
② Screw (2 × 4)

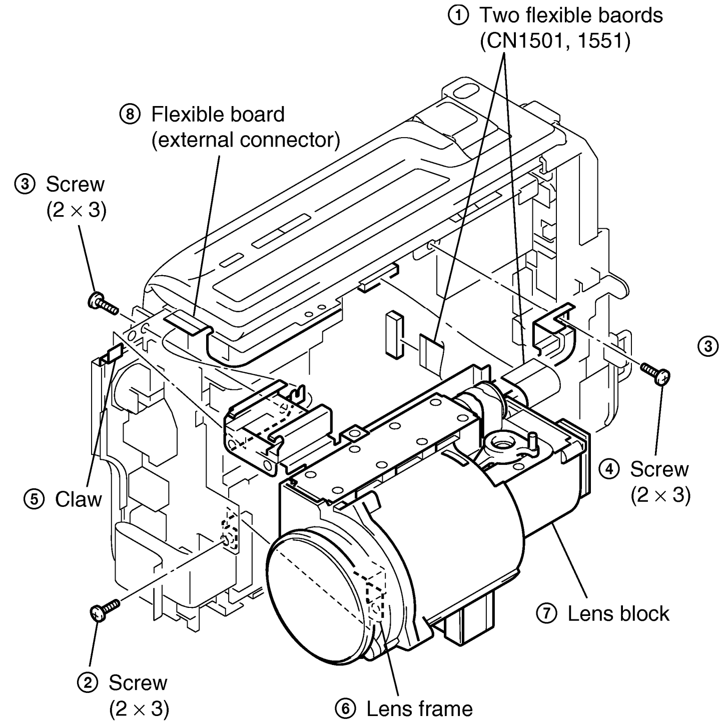
2-15. BATTERY PANEL ASSEMBLY, FP-162 FLEXIBLE BOARD


⑥ Screw (2 × 4)
③ Battery panel assembly
⑧ FP-162 flexible board
⑦ Two screws
② Flexuble board (CN801)
⑤ Harness (HT-054)
① Connector (CN252)
④ Screw (M2 × 3)

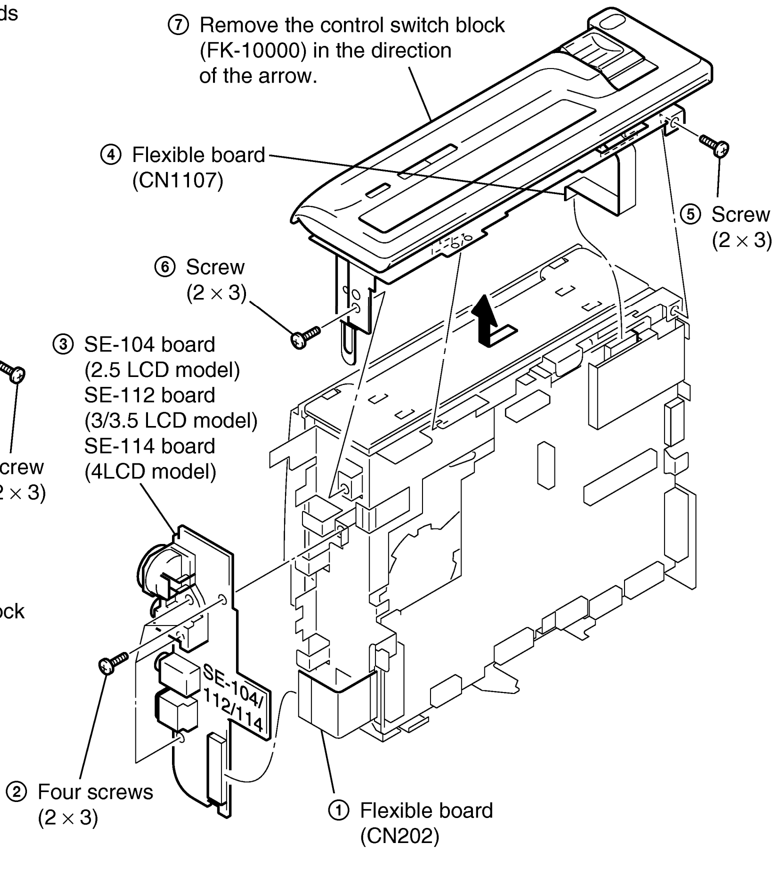
[PC-77 BOARD SERVICE POSITION]


FP-162 flexible board
Extension cable (100P)
(J-6082-352-A)
Adjustment remote
commander (RM-95)
PC-77
PC-77 board
AC IN
AC power
adaptor
Flont panel assembly
Flexible flat cable
(FFC-257)
Harness (DP-83)
FP-159
flexible board
Cabinet (R) assembly

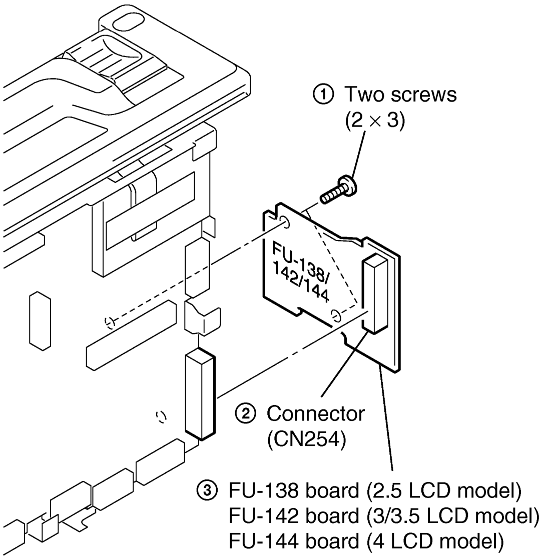
2-16. LENS BLOCK


① Two flexible baords
(CN1501, 1551)
⑧ Flexible board
(external connector)
③ Screw
(2 × 3)
④ Screw
(2 × 3)
⑤ Claw
⑦ Lens block
② Screw
(2 × 3)
⑥ Lens frame

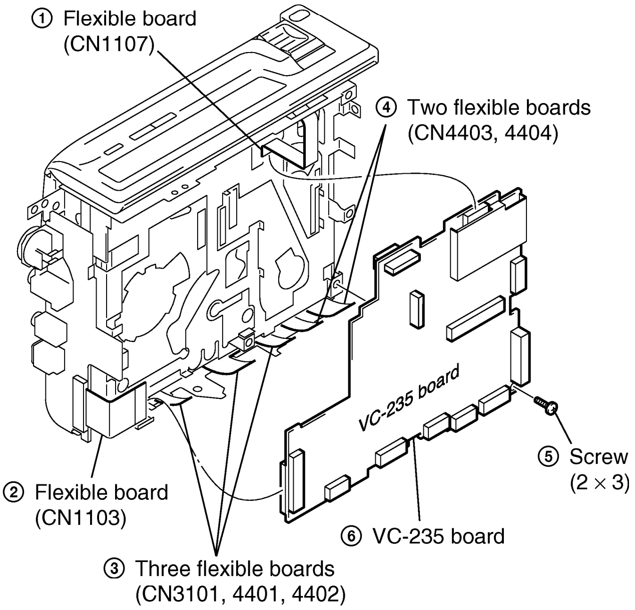
2-17. SE-104/112/114 BOARD, CONTROL SWITCH BLOCK (FK-10000)


⑦ Remove the control switch block
(FK-10000) in the direction
of the arrow.
④ Flexible board
(CN1107)
⑤ Screw
(2 × 3)
⑥ Screw
(2 × 3)
③ SE-104 board
(2.5 LCD model)
SE-112 board
(3/3.5 LCD model)
SE-114 board
(4LCD model)
SE-104/
112/114
② Four screws
(2 × 3)
① Flexible board
(CN202)

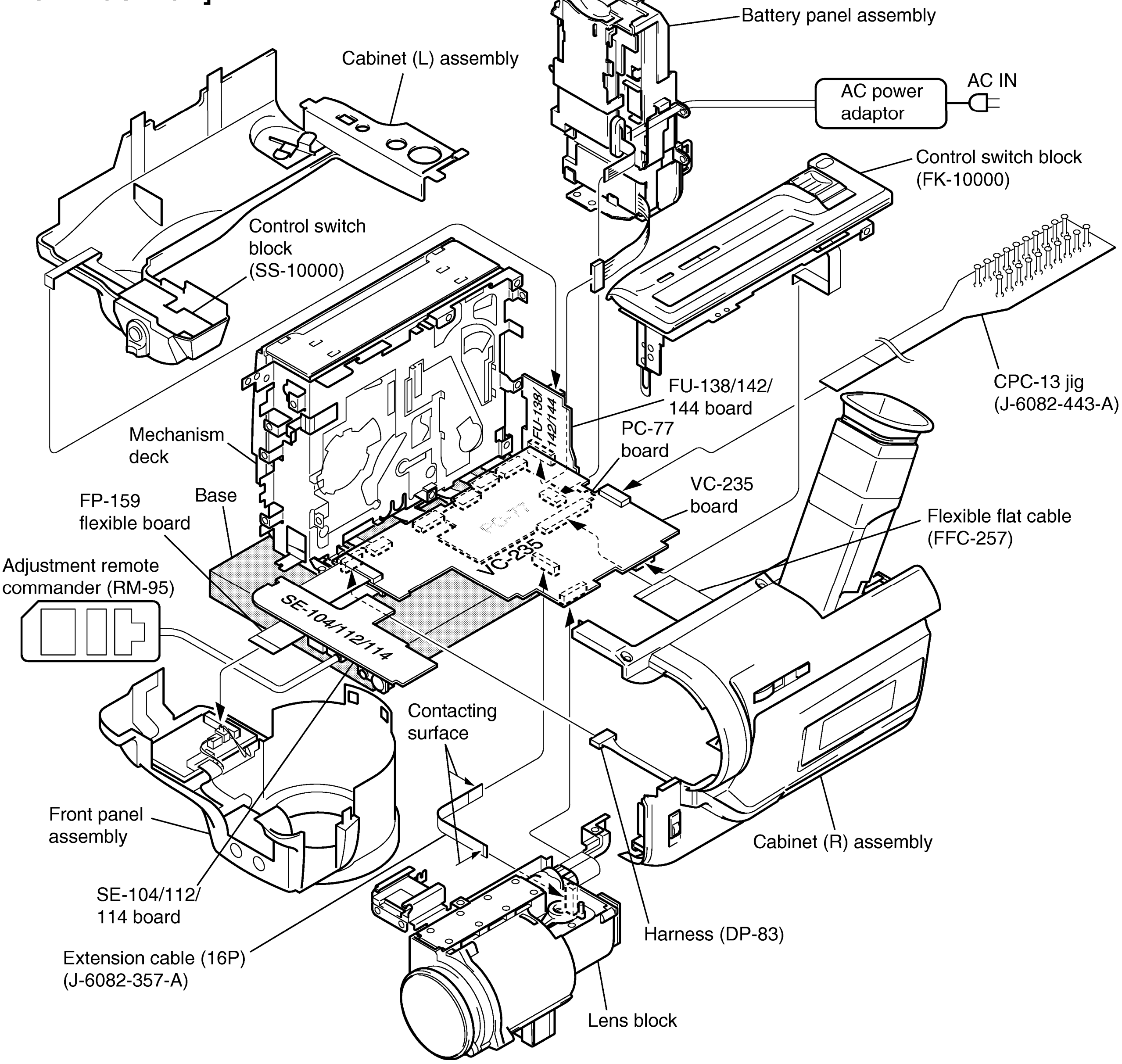
2-18. FU-138/142/144 BOARD


① Two screws
(2 × 3)
FU-138/
142/144
② Connector
(CN254)
③ FU-138 board (2.5 LCD model)
FU-142 board (3/3.5 LCD model)
FU-144 board (4 LCD model)

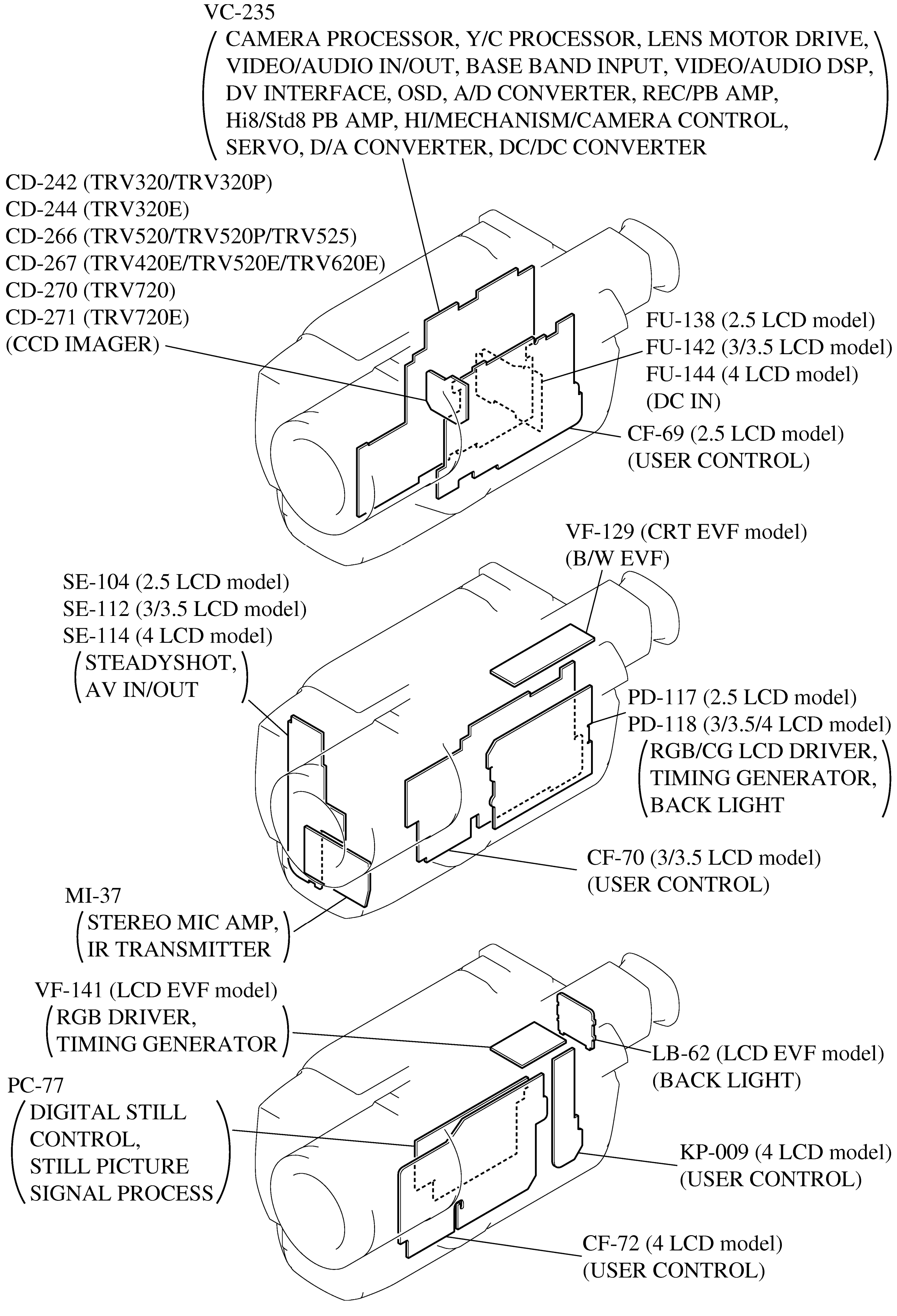
2-19. VC-235 BOARD


① Flexible board
(CN1107)
④ Two flexible boards
(CN4403, 4404)
VC-235 board
⑤ Screw
(2 × 3)
② Flexible board
(CN1103)
⑥ VC-235 board
③ Three flexible boards
(CN3101, 4401, 4402)

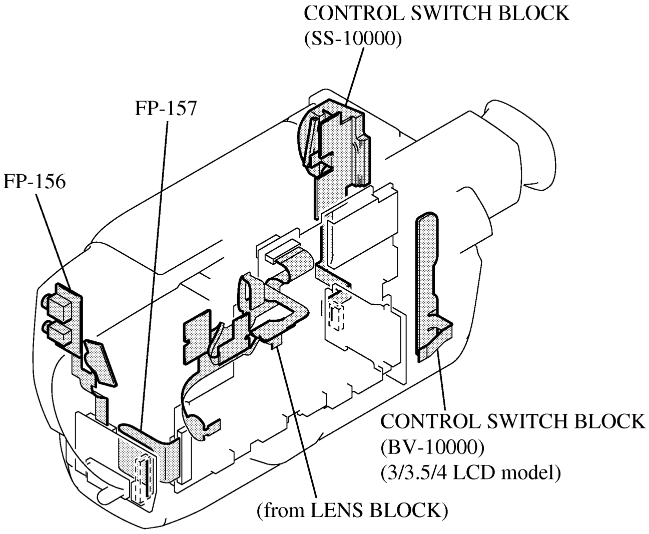
[MECHANISM DECK, VC-235 BOARD SERVICE POSITION]

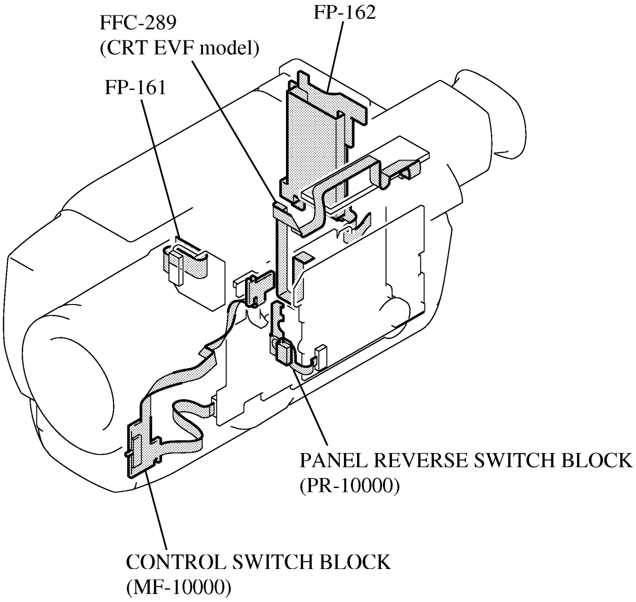

Battery panel assembly
Cabinet (L) assembly
AC power
adaptor
AC IN
Control switch block
(FK-10000)
Control switch
block
(SS-10000)
CPC-13 jig
(J-6082-443-A)
FU-138/142/
144 board
FU-138/142/144
PC-77
board
Mechanism
deck
VC-235
board
PC-77
VC-235
Flexible flat cable
(FFC-257)
FP-159
flexible board
Base
Adjustment remote
commander (RM-95)
SE-104/112/114
Contacting
surface
Front panel
assembly
Cabinet (R) assembly
SE-104/112/
114 board
Harness (DP-83)
Extension cable (16P)
(J-6082-357-A)
Lens block

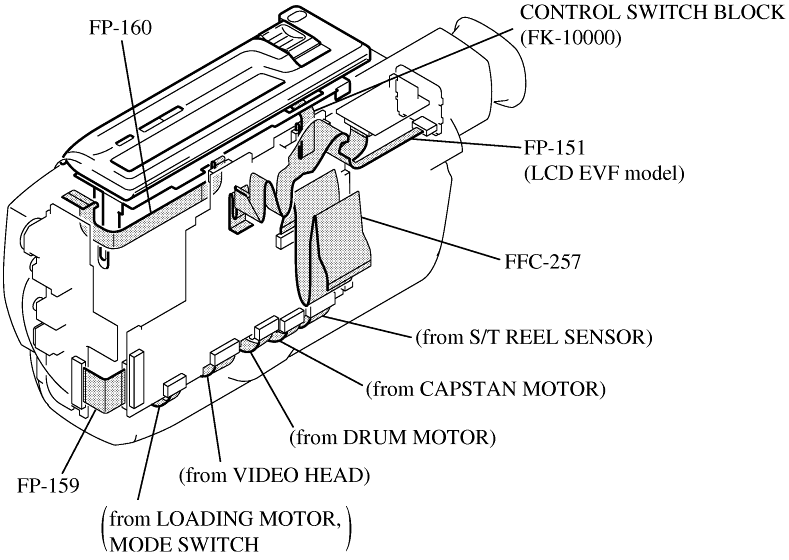
2-20. CIRCUIT BOARDS LOCATION


VC-235
CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, VIDEO/AUDIO IN/OUT, BASE BAND INPUT, VIDEO/AUDIO DSP, DV INTERFACE, OSD, A/D CONVERTER, REC/PB AMP, Hi8/Std8 PB AMP, HI/MECHANISM/CAMERA CONTROL, SERVO, D/A CONVERTER, DC/DC CONVERTER
CD-242 (TRV320/TRV320P)
CD-244 (TRV320E)
CD-266 (TRV520/TRV520P/TRV525)
CD-267 (TRV420E/TRV520E/TRV620E)
CD-270 (TRV720)
CD-271 (TRV720E)
(CCD IMAGER)
FU-138 (2.5 LCD model)
FU-142 (3/3.5 LCD model)
FU-144 (4 LCD model)
(DC IN)
CF-69 (2.5 LCD model)
(USER CONTROL)
VF-129 (CRT EVF model)
(B/W EVF)
SE-104 (2.5 LCD model)
SE-112 (3/3.5 LCD model)
SE-114 (4 LCD model)
STEADYSHOT, AV IN/OUT
PD-117 (2.5 LCD model)
PD-118 (3/3.5/4 LCD model)
RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT
CF-70 (3/3.5 LCD model)
(USER CONTROL)
MI-37
STEREO MIC AMP, IR TRANSMITTER
VF-141 (LCD EVF model)
RGB DRIVER, TIMING GENERATOR
LB-62 (LCD EVF model)
(BACK LIGHT)
PC-77
DIGITAL STILL CONTROL, STILL PICTURE SIGNAL PROCESS
KP-009 (4 LCD model)
(USER CONTROL)
CF-72 (4 LCD model)
(USER CONTROL)

2-21. FLEXIBLE BOARDS LOCATION

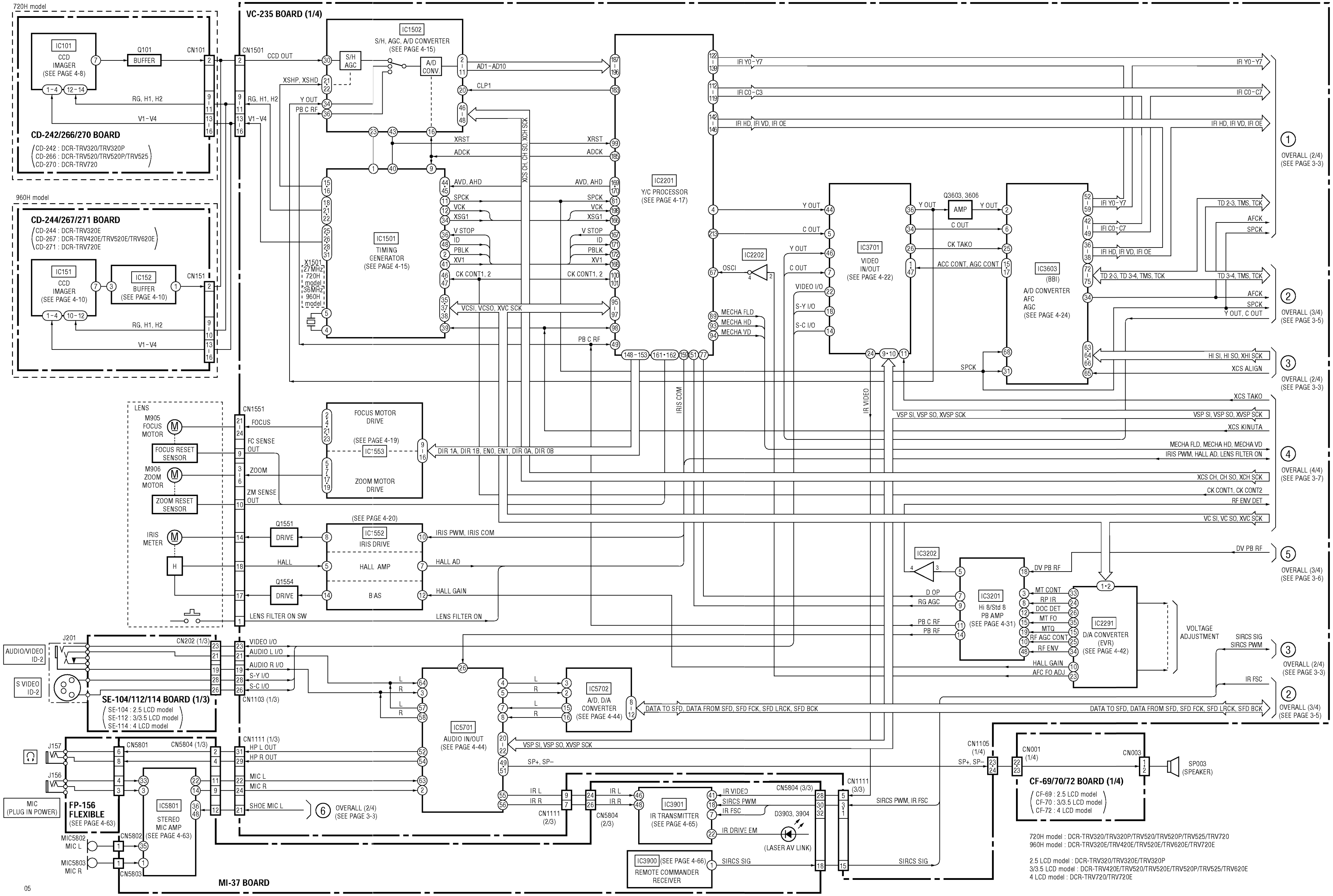

CONTROL SWITCH BLOCK
(SS-10000)
FP-157
FP-156
CONTROL SWITCH BLOCK
(BV-10000)
(3/3.5/4 LCD model)
(from LENS BLOCK)


FFC-289
(CRT EVF model)
FP-162
FP-161
PANEL REVERSE SWITCH BLOCK
(PR-10000)
CONTROL SWITCH BLOCK
(MF-10000)


FP-160
CONTROL SWITCH BLOCK
(FK-10000)
FP-151
(LCD EVF model)
FFC-257
(from S/T REEL SENSOR)
(from CAPSTAN MOTOR)
(from DRUM MOTOR)
(from VIDEO HEAD)
FP-159
(from LOADING MOTOR,
MODE SWITCH)

SECTION 3
BLOCK DIAGRAMS

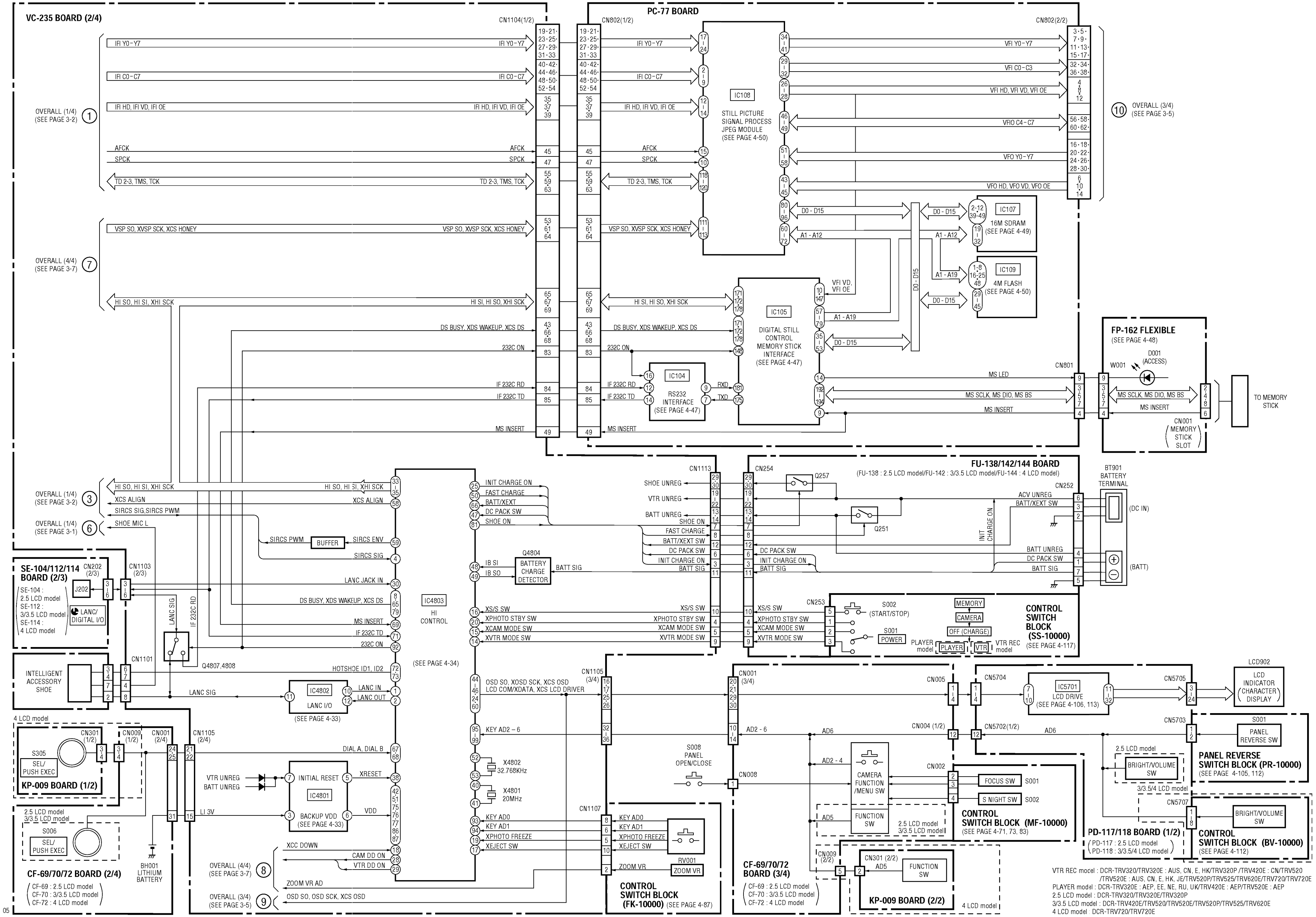
3-1. OVERALL BLOCK DIAGRAM 1


720H model
CD-242/266/270 BOARD
CD-242 : DCR-TRV320/TRV320P
CD-266 : DCR-TRV520/TRV520P/TRV525
CD-270 : DCR-TRV720
IC101 CCD IMAGER (SEE PAGE 4-8)
Q101 BUFFER
CN101
960H model
CD-244/267/271 BOARD
CD-244 : DCR-TRV320E
CD-267 : DCR-TRV420E/TRV520E/TRV620E
CD-271 : DCR-TRV720E
IC151 CCD IMAGER (SEE PAGE 4-10)
IC152 BUFFER (SEE PAGE 4-10)
CN151
RG, H1, H2
V1-V4
VC-235 BOARD (1/4)
CN1501
CCD OUT
XSHP, XSHD
Y OUT
PB C RF
IC1502 S/H, AGC, A/D CONVERTER (SEE PAGE 4-15)
S/H AGC
A/D CONV.
AD1-AD10
CLP1
XRST
ADCK
IC1501 TIMING GENERATOR (SEE PAGE 4-15)
X1501 27MHz 720H model 36MHz 960H model
AVD, AHD
SPCK
VCK
XSG1
V STOP
ID
PBLK
XV1
CK CONT1, 2
VCSI, VCSO, XVC SCK
XCS CH, CH SO, XCH SCK
IC2201 Y/C PROCESSOR (SEE PAGE 4-17)
IFI Y0-Y7
IFI C0-C3
IFI C0-C7
IFI HD, IFI VD, IFI OE
OSCI
IC2202
MECHA FLD
MECHA HD
MECHA VD
IRIS COM
IC3701 VIDEO IN/OUT (SEE PAGE 4-22)
Y OUT
C OUT
VIDEO I/O
S-Y I/O
S-C I/O
IR VIDEO
Q3603, 3606 AMP
CK TAKO
ACC CONT, AGC CONT
IC3603 (BBI) A/D CONVERTER AFC AGC (SEE PAGE 4-24)
TD 2-3, TMS, TCK
TD 2-3, TD 3-4, TMS, TCK
TD 3-4, TMS, TCK
AFCK
Y OUT, C OUT
HI SI, HI SO, XHI SCK
XCS ALIGN
XCS TAKO
VSP SI, VSP SO, XVSP SCK
XCS KINUTA
MECHA FLD, MECHA HD, MECHA VD
IRIS PWM, HALL AD, LENS FILTER ON
XCS CH, CH SO, XCH SCK
CK CONT1, CK CONT2
RF ENV DET
VC SI, VC SO, XVC SCK
DV PB RF
① OVERALL (2/4) (SEE PAGE 3-3)
② OVERALL (3/4) (SEE PAGE 3-5)
③ OVERALL (2/4) (SEE PAGE 3-3)
④ OVERALL (4/4) (SEE PAGE 3-7)
⑤ OVERALL (3/4) (SEE PAGE 3-6)
LENS
M905 FOCUS MOTOR
FOCUS RESET SENSOR
M906 ZOOM MOTOR
ZOOM RESET SENSOR
IRIS METER
H
CN1551
FOCUS
FC SENSE OUT
ZOOM
ZM SENSE OUT
FOCUS MOTOR DRIVE (SEE PAGE 4-19) IC1553 ZOOM MOTOR DRIVE
DIR 1A, DIR 1B, EN0, EN1, DIR 0A, DIR 0B
Q1551 DRIVE
Q1554 DRIVE
(SEE PAGE 4-20) IC1552 IRIS DRIVE HALL AMP BIAS
HALL
IRIS PWM, IRIS COM
HALL AD
HALL GAIN
LENS FILTER ON SW
LENS FILTER ON
IC3202
IC3201 Hi 8/Std 8 PB AMP (SEE PAGE 4-31)
D OP
RG AGC
PB C RF
PB RF
MT CONT
RP IR
DOC DET
MT FO
MTQ
RF AGC CONT
RF ENV
HALL GAIN
AFC FO ADJ
IC2291 D/A CONVERTER (EVR) (SEE PAGE 4-42)
VOLTAGE ADJUSTMENT
SIRCS SIG
SIRCS PWM
IR FSC
DATA TO SFD, DATA FROM SFD, SFD FCK, SFD LRCK, SFD BCK
J201
AUDIO/VIDEO ID-2
S VIDEO ID-2
CN202 (1/3)
SE-104/112/114 BOARD (1/3)
SE-104 : 2.5 LCD model
SE-112 : 3/3.5 LCD model
SE-114 : 4 LCD model
CN1103 (1/3)
VIDEO I/O
AUDIO L I/O
AUDIO R I/O
S-Y I/O
S-C I/O
IC5701 AUDIO IN/OUT (SEE PAGE 4-44)
IC5702 A/D, D/A CONVERTER (SEE PAGE 4-44)
L
R
J157
J156
MIC (PLUG IN POWER)
FP-156 FLEXIBLE (SEE PAGE 4-63)
CN5801
CN5804 (1/3)
IC5801 STEREO MIC AMP (SEE PAGE 4-63)
MIC5802 MIC L
MIC5803 MIC R
CN5802
CN5803
CN1111 (1/3)
HP L OUT
HP R OUT
MIC L
MIC R
SHOE MIC L
⑥ OVERALL (2/4) (SEE PAGE 3-3)
VSP SI, VSP SO, XVSP SCK
SP+, SP-
IR L
IR R
CN1111 (2/3)
CN5804 (2/3)
IC3901 IR TRANSMITTER (SEE PAGE 4-65)
IR VIDEO
SIRCS PWM
IR FSC
IR DRIVE EM
D3903, 3904
(LASER AV LINK)
CN5804 (3/3)
CN1111 (3/3)
SIRCS PWM, IR FSC
IC3900 (SEE PAGE 4-66) REMOTE COMMANDER RECEIVER
SIRCS SIG
MI-37 BOARD
CN1105 (1/4)
CN001 (1/4)
CN003
CF-69/70/72 BOARD (1/4)
CF-69 : 2.5 LCD model
CF-70 : 3/3.5 LCD model
CF-72 : 4 LCD model
SP003 (SPEAKER)
05

720H model : DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H model : DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

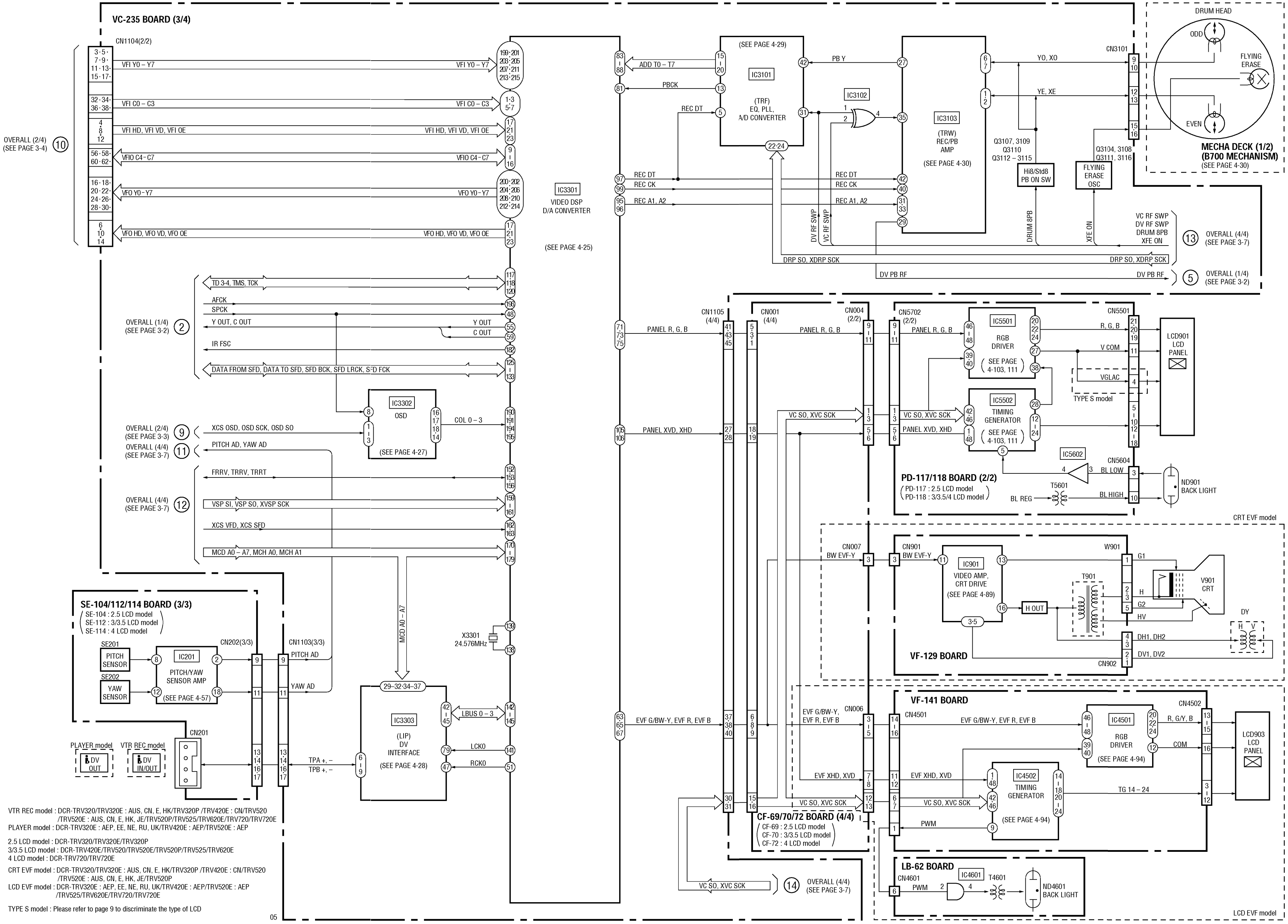
2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD model : DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD model : DCR-TRV720/TRV720E

3-2. OVERALL BLOCK DIAGRAM 2


VC-235 BOARD (2/4)
CN1104(1/2)
PC-77 BOARD
CN802(1/2)
CN802(2/2)
IFI Y0 – Y7
IFI C0 – C7
IFI HD, IFI VD, IFI OE
AFCK
SPCK
TD 2-3, TMS, TCK
VSP SO, XVSP SCK, XCS HONEY
HI SO, HI SI, XHI SCK
DS BUSY, XDS WAKEUP, XCS DS
232C ON
IF 232C RD
IF 232C TD
MS INSERT
OVERALL (1/4) (SEE PAGE 3-2) ①
OVERALL (4/4) (SEE PAGE 3-7) ⑦
IC108
STILL PICTURE SIGNAL PROCESS JPEG MODULE (SEE PAGE 4-50)
VFI Y0 – Y7
VFI C0 – C3
VFI HD, VFI VD, VFI OE
VFIO C4 – C7
VFO Y0 – Y7
VFO HD, VFO VD, VFO OE
OVERALL (3/4) (SEE PAGE 3-5) ⑩
D0 - D15
A1 - A12
A1 - A19
IC107 16M SDRAM (SEE PAGE 4-49)
IC109 4M FLASH (SEE PAGE 4-50)
VFI VD, VFI OE
IC105 DIGITAL STILL CONTROL MEMORY STICK INTERFACE (SEE PAGE 4-47)
IC104 RS232 INTERFACE (SEE PAGE 4-47)
RXD
TXD
MS LED
MS SCLK, MS DIO, MS BS
CN801
FP-162 FLEXIBLE (SEE PAGE 4-48)
D001 (ACCESS)
W001
CN001 MEMORY STICK SLOT
TO MEMORY STICK
OVERALL (1/4) (SEE PAGE 3-2) ③
OVERALL (1/4) (SEE PAGE 3-1) ⑥
XCS ALIGN
SIRCS SIG,SIRCS PWM
SHOE MIC L
SIRCS PWM
BUFFER
SIRCS ENV
SIRCS SIG
LANC JACK IN
MS INSERT
IF 232C TD
232C ON
HOTSHOE ID1, ID2
LANC IN
LANC OUT
IC4802 LANC I/O (SEE PAGE 4-33)
IC4803 HI CONTROL (SEE PAGE 4-34)
INIT CHARGE ON
FAST CHARGE
BATT/XEXT
DC PACK SW
SHOE ON
IB SI
IB SO
Q4804 BATTERY CHARGE DETECTOR
BATT SIG
XS/S SW
XPHOTO STBY SW
XCAM MODE SW
XVTR MODE SW
OSD SO, XOSD SCK, XCS OSD
LCD COM/XDATA, XCS LCD DRIVER
KEY AD2 – 6
X4802 32.768KHz
X4801 20MHz
KEY AD0
KEY AD1
XPHOTO FREEZE
XEJECT SW
SE-104/112/114 BOARD (2/3)
SE-104 : 2.5 LCD model
SE-112 : 3/3.5 LCD model
SE-114 : 4 LCD model
CN202 (2/3)
CN1103 (2/3)
J202
LANC/DIGITAL I/O
LANC SIG
IF 232C RD
Q4807,4808
CN1101
INTELLIGENT ACCESSORY SHOE
4 LCD model
CN301 (1/2)
CN009 (1/2)
CN001 (2/4)
CN1105 (2/4)
S305 SEL/PUSH EXEC
KP-009 BOARD (1/2)
DIAL A, DIAL B
XRESET
VTR UNREG
BATT UNREG
IC4801 INITIAL RESET BACKUP VDD (SEE PAGE 4-33)
VDD
LI 3V
2.5 LCD model
3/3.5 LCD model
S006 SEL/PUSH EXEC
CF-69/70/72 BOARD (2/4)
CF-69 : 2.5 LCD model
CF-70 : 3/3.5 LCD model
CF-72 : 4 LCD model
BH001 LITHIUM BATTERY
XCC DOWN
CAM DD ON
VTR DD ON
ZOOM VR AD
OSD SO, OSD SCK, XCS OSD
OVERALL (4/4) (SEE PAGE 3-7) ⑧
OVERALL (3/4) (SEE PAGE 3-5) ⑨
CN1113
CN254
SHOE UNREG
VTR UNREG
BATT UNREG
Q257
Q251
FU-138/142/144 BOARD
(FU-138 : 2.5 LCD model/FU-142 : 3/3.5 LCD model/FU-144 : 4 LCD model)
CN252
ACV UNREG
BATT/XEXT SW
INIT CHARGE ON
BATT UNREG
DC PACK SW
BATT SIG
BT901 BATTERY TERMINAL
(DC IN)
(BATT)
CN253
S002 (START/STOP)
S001 POWER
MEMORY
CAMERA
OFF (CHARGE)
PLAYER model
PLAYER
VTR
VTR REC model
CONTROL SWITCH BLOCK (SS-10000) (SEE PAGE 4-117)
CN1105 (3/4)
CN1107
KEY AD0
KEY AD1
XPHOTO FREEZE
XEJECT SW
ZOOM VR
RV001 ZOOM VR
CONTROL SWITCH BLOCK (FK-10000) (SEE PAGE 4-87)
S008 PANEL OPEN/CLOSE
CN001 (3/4)
AD2 - 6
CN008
CF-69/70/72 BOARD (3/4)
CF-69 : 2.5 LCD model
CF-70 : 3/3.5 LCD model
CF-72 : 4 LCD model
CN005
CN004 (1/2)
AD6
AD2 - 4
CN002
CAMERA FUNCTION /MENU SW
FUNCTION SW
FOCUS SW S001
S NIGHT SW S002
AD5
2.5 LCD model
3/3.5 LCD model
CONTROL SWITCH BLOCK (MF-10000) (SEE PAGE 4-71, 73, 83)
CN009 (2/2)
CN301 (2/2)
FUNCTION SW
KP-009 BOARD (2/2)
4 LCD model
CN5704
IC5701 LCD DRIVE (SEE PAGE 4-106, 113)
CN5705
LCD902 LCD INDICATOR (CHARACTER DISPLAY)
CN5703
CN5702(1/2)
S001 PANEL REVERSE SW
PANEL REVERSE SWITCH BLOCK (PR-10000) (SEE PAGE 4-105, 112)
2.5 LCD model
BRIGHT/VOLUME SW
3/3.5/4 LCD model
CN5707
PD-117/118 BOARD (1/2)
PD-117 : 2.5 LCD model
PD-118 : 3/3.5/4 LCD model
CONTROL SWITCH BLOCK (BV-10000) (SEE PAGE 4-112)
05

VTR REC model : DCR-TRV320/TRV320E : AUS, CN, E, HK/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER model : DCR-TRV320E : AEP, EE, NE, RU, UK/TRV420E : AEP/TRV520E : AEP
2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD model : DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD model : DCR-TRV720/TRV720E

3-3. OVERALL BLOCK DIAGRAM 3


VC-235 BOARD (3/4)
CN1104(2/2)
OVERALL (2/4) (SEE PAGE 3-4) ⑩
VFI Y0 – Y7
VFI C0 – C3
VFI HD, VFI VD, VFI OE
VFIO C4 – C7
VFO Y0 – Y7
VFO HD, VFO VD, VFO OE
IC3301
VIDEO DSP
D/A CONVERTER
(SEE PAGE 4-25)
OVERALL (1/4) (SEE PAGE 3-2) ②
TD 3-4, TMS, TCK
AFCK
SPCK
Y OUT, C OUT
Y OUT
C OUT
IR FSC
DATA FROM SFD, DATA TO SFD, SFD BCK, SFD LRCK, SFD FCK
IC3302
OSD
(SEE PAGE 4-27)
COL 0 – 3
OVERALL (2/4) (SEE PAGE 3-3) ⑨
XCS OSD, OSD SCK, OSD SO
OVERALL (4/4) (SEE PAGE 3-7) ⑪
PITCH AD, YAW AD
OVERALL (4/4) (SEE PAGE 3-7) ⑫
FRRV, TRRV, TRRT
VSP SI, VSP SO, XVSP SCK
XCS VFD, XCS SFD
MCD A0 – A7, MCH A0, MCH A1
MCD A0 – A7
X3301 24.576MHz
SE-104/112/114 BOARD (3/3)
SE-104 : 2.5 LCD model
SE-112 : 3/3.5 LCD model
SE-114 : 4 LCD model
SE201 PITCH SENSOR
SE202 YAW SENSOR
IC201
PITCH/YAW SENSOR AMP
(SEE PAGE 4-57)
CN202(3/3)
CN1103(3/3)
PITCH AD
YAW AD
CN201
PLAYER model
DV OUT
VTR REC model
DV IN/OUT
TPA +, –
TPB +, –
IC3303
(LIP)
DV INTERFACE
(SEE PAGE 4-28)
LBUS 0 – 3
LCK0
RCK0
ADD T0 – T7
PBCK
REC DT
IC3101
(TRF)
EQ, PLL,
A/D CONVERTER
(SEE PAGE 4-29)
PB Y
IC3102
IC3103
(TRW)
REC/PB AMP
(SEE PAGE 4-30)
REC DT
REC CK
REC A1, A2
DV RF SWP
VC RF SWP
YO, XO
YE, XE
Q3107, 3109
Q3110
Q3112 – 3115
Hi8/Std8 PB ON SW
DRUM 8PB
Q3104, 3108
Q3111, 3116
FLYING ERASE OSC
XFE ON
CN3101
DRUM HEAD
ODD
FLYING ERASE
EVEN
MECHA DECK (1/2)
(B700 MECHANISM)
(SEE PAGE 4-30)
VC RF SWP
DV RF SWP
DRUM 8PB
XFE ON
OVERALL (4/4) (SEE PAGE 3-7) ⑬
DRP SO, XDRP SCK
DV PB RF
OVERALL (1/4) (SEE PAGE 3-2) ⑤
CN1105 (4/4)
CN001 (4/4)
CN004 (2/2)
PANEL R, G, B
PANEL XVD, XHD
VC SO, XVC SCK
CN5702 (2/2)
IC5501
RGB DRIVER
(SEE PAGE 4-103, 111)
IC5502
TIMING GENERATOR
(SEE PAGE 4-103, 111)
CN5501
R, G, B
V COM
VGLAC
TYPE S model
LCD901 LCD PANEL
IC5602
CN5604
BL LOW
BL HIGH
BL REG
T5601
ND901 BACK LIGHT
PD-117/118 BOARD (2/2)
PD-117 : 2.5 LCD model
PD-118 : 3/3.5/4 LCD model
CRT EVF model
CN007
BW EVF-Y
CN901
BW EVF-Y
IC901
VIDEO AMP, CRT DRIVE
(SEE PAGE 4-89)
H OUT
W901
T901
G1
H
G2
HV
V901 CRT
DY
DH1, DH2
DV1, DV2
CN902
VF-129 BOARD
EVF G/BW-Y, EVF R, EVF B
CN006
EVF XHD, XVD
VF-141 BOARD
CN4501
IC4501
RGB DRIVER
(SEE PAGE 4-94)
CN4502
R, G/Y, B
COM
IC4502
TIMING GENERATOR
(SEE PAGE 4-94)
TG 14 – 24
PWM
LCD903 LCD PANEL
CF-69/70/72 BOARD (4/4)
CF-69 : 2.5 LCD model
CF-70 : 3/3.5 LCD model
CF-72 : 4 LCD model
VC SO, XVC SCK
OVERALL (4/4) (SEE PAGE 3-7) ⑭
LB-62 BOARD
CN4601
IC4601
T4601
ND4601 BACK LIGHT
LCD EVF model
05

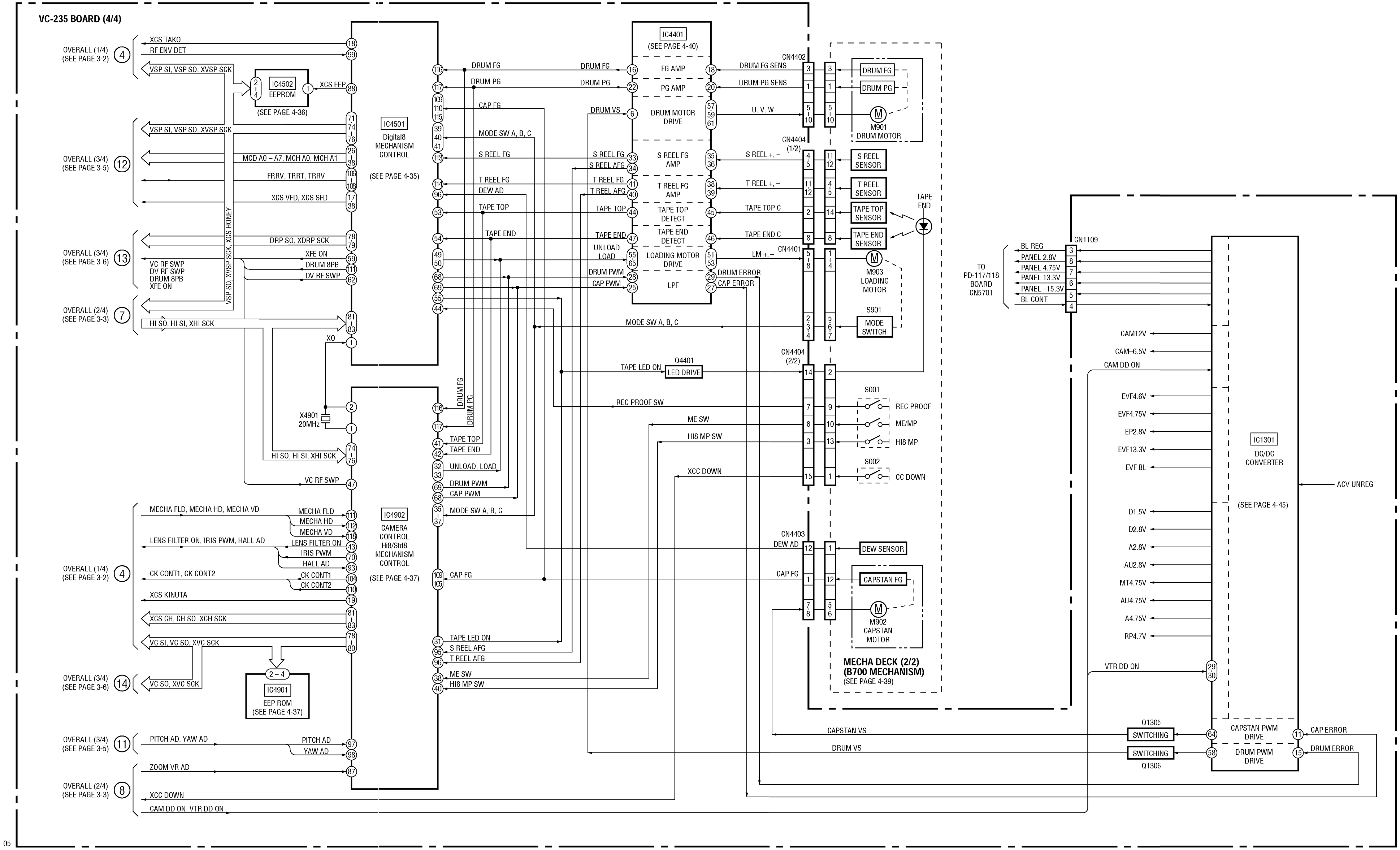
VTR REC model : DCR-TRV320/TRV320E : AUS, CN, E, HK/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER model : DCR-TRV320E : AEP, EE, NE, RU, UK/TRV420E : AEP/TRV520E : AEP

2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD model : DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD model : DCR-TRV720/TRV720E

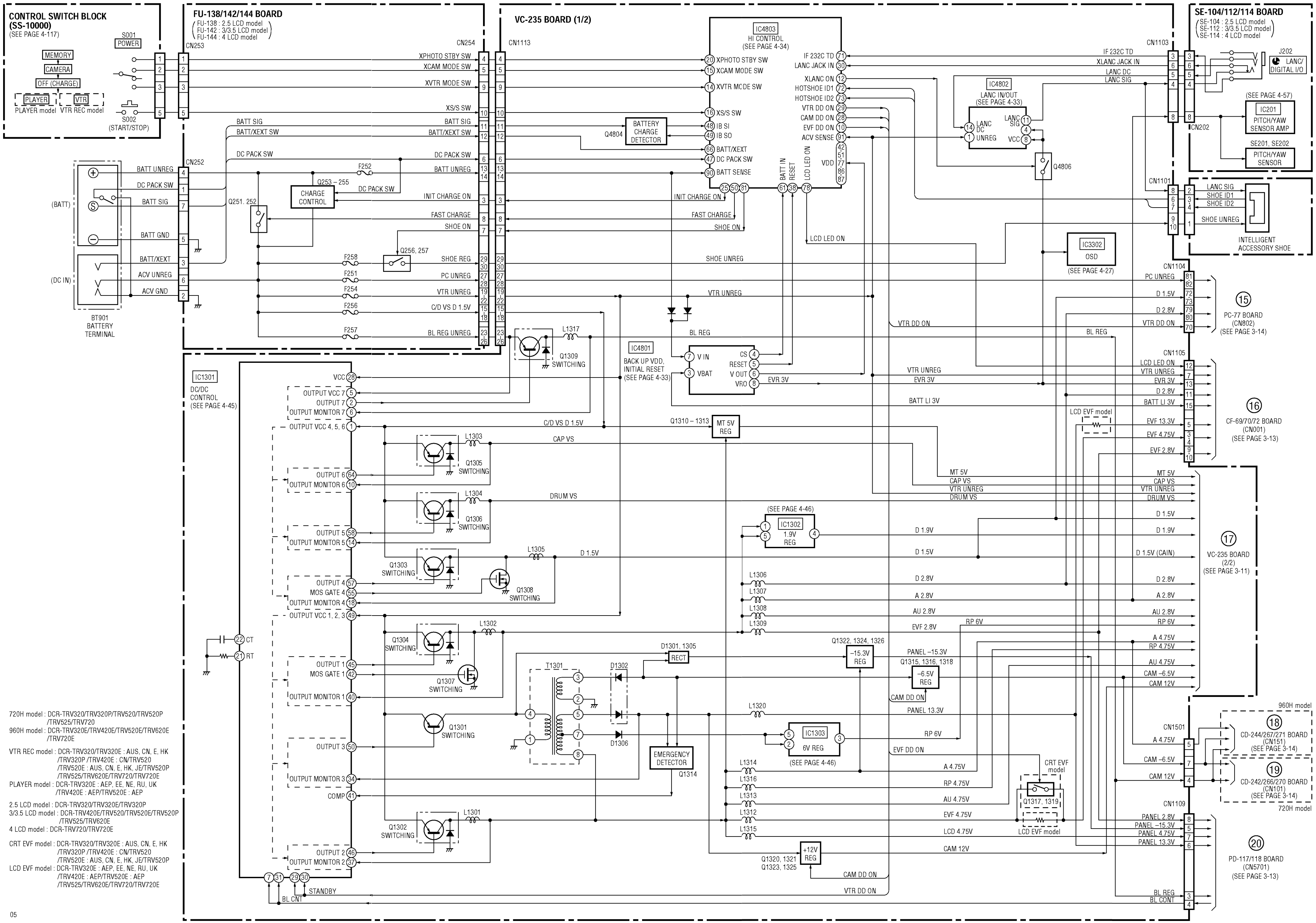
CRT EVF model : DCR-TRV320/TRV320E : AUS, CN, E, HK/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P
LCD EVF model : DCR-TRV320E : AEP, EE, NE, RU, UK/TRV420E : AEP/TRV520E : AEP
/TRV525/TRV620E/TRV720/TRV720E

TYPE S model : Please refer to page 9 to discriminate the type of LCD

3-4. OVERALL BLOCK DIAGRAM 4


VC-235 BOARD (4/4)
OVERALL (1/4) (SEE PAGE 3-2) ④
XCS TAKO
RF ENV DET
VSP SI, VSP SO, XVSP SCK
IC4502 EEPROM (SEE PAGE 4-36)
XCS EEP
IC4501 Digital8 MECHANISM CONTROL (SEE PAGE 4-35)
OVERALL (3/4) (SEE PAGE 3-5) ⑫
MCD A0 – A7, MCH A0, MCH A1
FRRV, TRRT, TRRV
XCS VFD, XCS SFD
OVERALL (3/4) (SEE PAGE 3-6) ⑬
DRP SO, XDRP SCK
XFE ON
DRUM 8PB
DV RF SWP
VC RF SWP
XFE ON
VSP SO, XVSP SCK, XCS HONEY
OVERALL (2/4) (SEE PAGE 3-3) ⑦
HI SO, HI SI, XHI SCK
XO
X4901 20MHz
IC4902 CAMERA CONTROL Hi8/Std8 MECHANISM CONTROL (SEE PAGE 4-37)
MECHA FLD, MECHA HD, MECHA VD
LENS FILTER ON, IRIS PWM, HALL AD
CK CONT1, CK CONT2
XCS KINUTA
XCS CH, CH SO, XCH SCK
VC SI, VC SO, XVC SCK
OVERALL (3/4) (SEE PAGE 3-6) ⑭
VC SO, XVC SCK
IC4901 EEP ROM (SEE PAGE 4-37)
OVERALL (3/4) (SEE PAGE 3-5) ⑪
PITCH AD, YAW AD
OVERALL (2/4) (SEE PAGE 3-3) ⑧
ZOOM VR AD
XCC DOWN
CAM DD ON, VTR DD ON
DRUM FG
DRUM PG
CAP FG
MODE SW A, B, C
S REEL FG
T REEL FG
DEW AD
TAPE TOP
TAPE END
UNLOAD, LOAD
DRUM PWM
CAP PWM
TAPE LED ON
S REEL AFG
T REEL AFG
ME SW
HI8 MP SW
IC4401 (SEE PAGE 4-40)
FG AMP
PG AMP
DRUM MOTOR DRIVE
S REEL FG AMP
T REEL FG AMP
TAPE TOP DETECT
TAPE END DETECT
LOADING MOTOR DRIVE
LPF
DRUM VS
UNLOAD LOAD
DRUM ERROR
CAP ERROR
DRUM FG SENS
DRUM PG SENS
U, V, W
S REEL +, –
T REEL +, –
TAPE TOP C
TAPE END C
LM +, –
CN4402
CN4404 (1/2)
CN4401
CN4404 (2/2)
CN4403
Q4401 LED DRIVE
TAPE LED ON
REC PROOF SW
ME SW
HI8 MP SW
XCC DOWN
DEW AD
CAP FG
DRUM FG
DRUM PG
M901 DRUM MOTOR
S REEL SENSOR
T REEL SENSOR
TAPE TOP SENSOR
TAPE END SENSOR
TAPE END
M903 LOADING MOTOR
S901 MODE SWITCH
S001
REC PROOF
ME/MP
HI8 MP
S002
CC DOWN
DEW SENSOR
CAPSTAN FG
M902 CAPSTAN MOTOR
MECHA DECK (2/2) (B700 MECHANISM) (SEE PAGE 4-39)
TO PD-117/118 BOARD CN5701
CN1109
BL REG
PANEL 2.8V
PANEL 4.75V
PANEL 13.3V
PANEL –15.3V
BL CONT
CAM12V
CAM–6.5V
CAM DD ON
EVF4.6V
EVF4.75V
EP2.8V
EVF13.3V
EVF BL
D1.5V
D2.8V
A2.8V
AU2.8V
MT4.75V
AU4.75V
A4.75V
RP4.7V
VTR DD ON
IC1301 DC/DC CONVERTER (SEE PAGE 4-45)
ACV UNREG
CAPSTAN PWM DRIVE
DRUM PWM DRIVE
CAP ERROR
DRUM ERROR
Q1305 SWITCHING
Q1306 SWITCHING
CAPSTAN VS
DRUM VS
05

3-5. POWER BLOCK DIAGRAM 1


CONTROL SWITCH BLOCK
(SS-10000)
(SEE PAGE 4-117)
S001
POWER
MEMORY
CAMERA
OFF (CHARGE)
PLAYER
VTR
PLAYER model
VTR REC model
S002
(START/STOP)
FU-138/142/144 BOARD
FU-138 : 2.5 LCD model
FU-142 : 3/3.5 LCD model
FU-144 : 4 LCD model
CN253
CN254
CN252
XPHOTO STBY SW
XCAM MODE SW
XVTR MODE SW
XS/S SW
BATT SIG
BATT/XEXT SW
DC PACK SW
BATT UNREG
INIT CHARGE ON
FAST CHARGE
SHOE ON
SHOE REG
PC UNREG
VTR UNREG
C/D VS D 1.5V
BL REG UNREG
F252
F258
F251
F254
F256
F257
Q253 – 255
CHARGE CONTROL
Q251, 252
Q256, 257
(BATT)
(DC IN)
BATT UNREG
DC PACK SW
BATT SIG
BATT GND
BATT/XEXT
ACV UNREG
ACV GND
BT901
BATTERY
TERMINAL
VC-235 BOARD (1/2)
CN1113
BATTERY CHARGE DETECTOR
Q4804
IC4803
HI CONTROL
(SEE PAGE 4-34)
XPHOTO STBY SW
XCAM MODE SW
XVTR MODE SW
XS/S SW
IB SI
IB SO
BATT/XEXT
DC PACK SW
BATT SENSE
IF 232C TD
LANC JACK IN
XLANC ON
HOTSHOE ID1
HOTSHOE ID2
VTR DD ON
CAM DD ON
EVF DD ON
ACV SENSE
VDD
BATT IN
RESET
LCD LED ON
IC4802
LANC IN/OUT
(SEE PAGE 4-33)
LANC DC
UNREG
LANC SIG
VCC
Q4806
IC3302
OSD
(SEE PAGE 4-27)
IC4801
BACK UP VDD,
INITIAL RESET
(SEE PAGE 4-33)
V IN
VBAT
CS
RESET
V OUT
VRO
EVR 3V
BL REG
SHOE UNREG
Q1309
SWITCHING
L1317
IC1301
DC/DC
CONTROL
(SEE PAGE 4-45)
VCC
OUTPUT VCC 7
OUTPUT 7
OUTPUT MONITOR 7
OUTPUT VCC 4, 5, 6
OUTPUT 6
OUTPUT MONITOR 6
OUTPUT 5
OUTPUT MONITOR 5
OUTPUT 4
MOS GATE 4
OUTPUT MONITOR 4
OUTPUT VCC 1, 2, 3
OUTPUT 1
MOS GATE 1
OUTPUT MONITOR 1
OUTPUT 3
OUTPUT MONITOR 3
COMP
OUTPUT 2
OUTPUT MONITOR 2
CT
RT
STANDBY
BL CNT
Q1305 SWITCHING
L1303
CAP VS
Q1306 SWITCHING
L1304
DRUM VS
Q1303 SWITCHING
L1305
D 1.5V
Q1308 SWITCHING
Q1304 SWITCHING
L1302
Q1307 SWITCHING
Q1301 SWITCHING
T1301
D1302
D1306
D1301, 1305
RECT
EMERGENCY DETECTOR
Q1314
Q1302 SWITCHING
L1301
Q1310 – 1313
MT 5V REG
(SEE PAGE 4-46)
IC1302
1.9V REG
L1306
L1307
L1308
L1309
D 1.9V
D 2.8V
A 2.8V
AU 2.8V
EVF 2.8V
RP 6V
Q1322, 1324, 1326
–15.3V REG
PANEL –15.3V
Q1315, 1316, 1318
–6.5V REG
CAM DD ON
L1320
PANEL 13.3V
IC1303
6V REG
(SEE PAGE 4-46)
EVF DD ON
L1314
L1316
L1313
L1312
L1315
A 4.75V
RP 4.75V
AU 4.75V
EVF 4.75V
LCD 4.75V
CAM 12V
+12V REG
Q1320, 1321
Q1323, 1325
VTR DD ON
CRT EVF model
Q1317, 1319
LCD EVF model
SE-104/112/114 BOARD
SE-104 : 2.5 LCD model
SE-112 : 3/3.5 LCD model
SE-114 : 4 LCD model
CN1103
J202
LANC/DIGITAL I/O
XLANC JACK IN
LANC DC
LANC SIG
(SEE PAGE 4-57)
IC201
PITCH/YAW SENSOR AMP
SE201, SE202
PITCH/YAW SENSOR
CN202
CN1101
LANC SIG
SHOE ID1
SHOE ID2
SHOE UNREG
INTELLIGENT ACCESSORY SHOE
CN1104
PC UNREG
D 1.5V
D 2.8V
VTR DD ON
⑮
PC-77 BOARD
(CN802)
(SEE PAGE 3-14)
CN1105
LCD LED ON
VTR UNREG
EVR 3V
D 2.8V
BATT LI 3V
EVF 13.3V
EVF 4.75V
EVF 2.8V
⑯
CF-69/70/72 BOARD
(CN001)
(SEE PAGE 3-13)
MT 5V
CAP VS
VTR UNREG
DRUM VS
D 1.5V
D 1.9V
D 1.5V (CAIN)
D 2.8V
A 2.8V
AU 2.8V
RP 6V
A 4.75V
RP 4.75V
AU 4.75V
CAM –6.5V
CAM 12V
⑰
VC-235 BOARD
(2/2)
(SEE PAGE 3-11)
960H model
CN1501
A 4.75V
CAM –6.5V
CAM 12V
⑱
CD-244/267/271 BOARD
(CN151)
(SEE PAGE 3-14)
⑲
CD-242/266/270 BOARD
(CN101)
(SEE PAGE 3-14)
720H model
CN1109
PANEL 2.8V
PANEL –15.3V
PANEL 4.75V
PANEL 13.3V
BL REG
BL CONT
⑳
PD-117/118 BOARD
(CN5701)
(SEE PAGE 3-13)

720H model : DCR-TRV320/TRV320P/TRV520/TRV520P
/TRV525/TRV720
960H model : DCR-TRV320E/TRV420E/TRV520E/TRV620E
/TRV720E

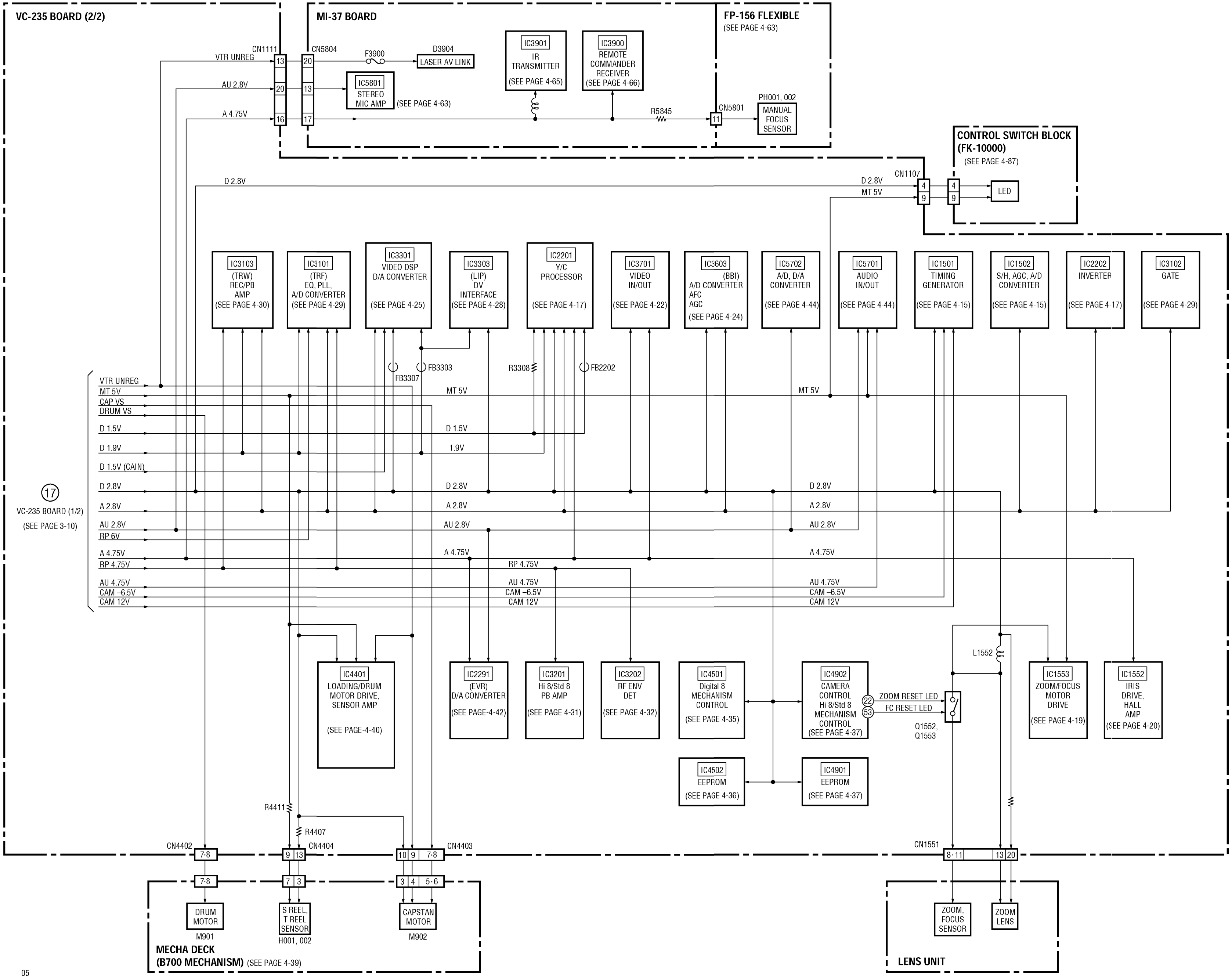
VTR REC model : DCR-TRV320/TRV320E : AUS, CN, E, HK
/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P
/TRV525/TRV620E/TRV720/TRV720E
PLAYER model : DCR-TRV320E : AEP, EE, NE, RU, UK
/TRV420E : AEP/TRV520E : AEP

2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD model : DCR-TRV420E/TRV520/TRV520E/TRV520P
/TRV525/TRV620E
4 LCD model : DCR-TRV720/TRV720E

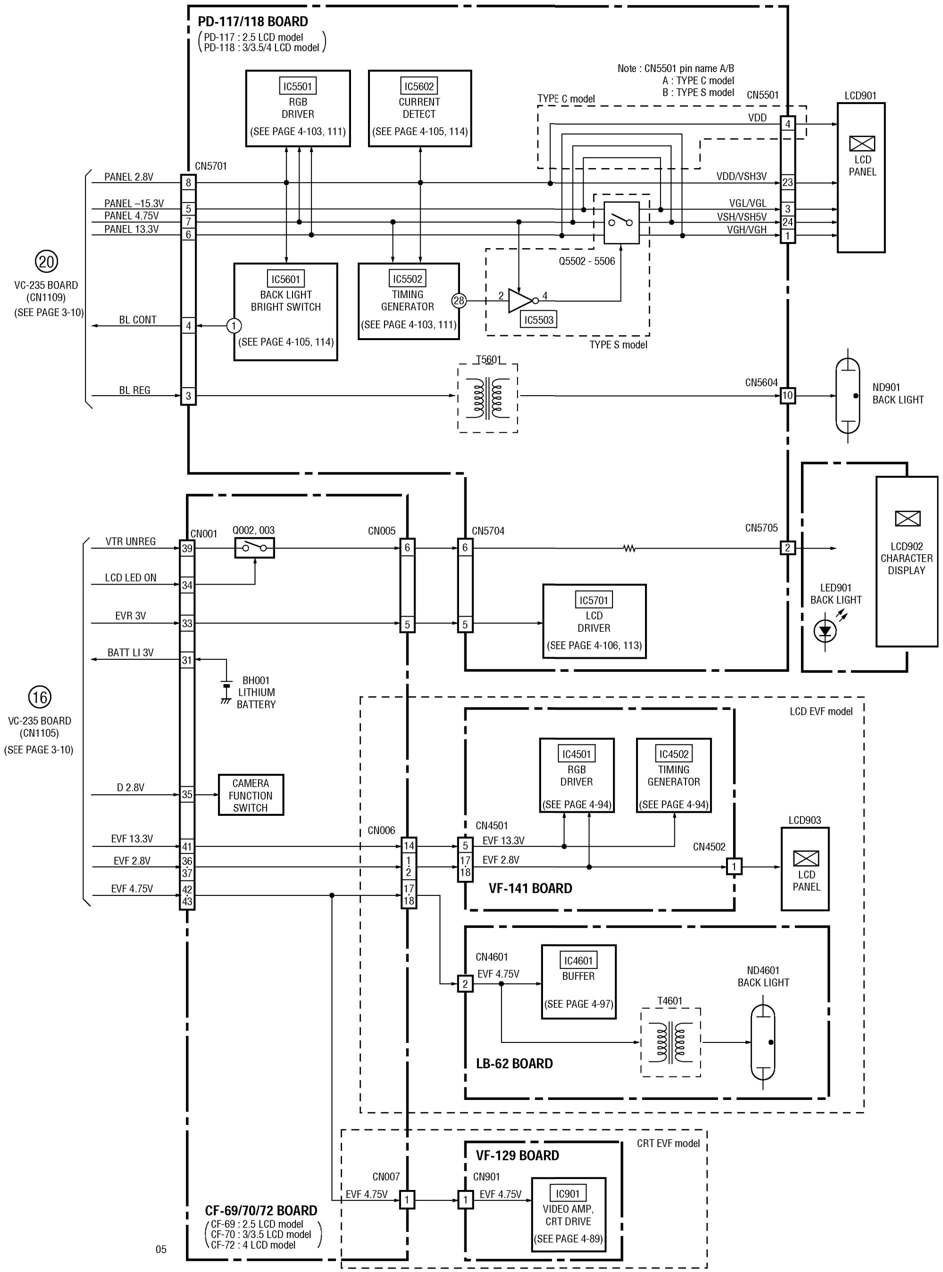
CRT EVF model : DCR-TRV320/TRV320E : AUS, CN, E, HK
/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P
LCD EVF model : DCR-TRV320E : AEP, EE, NE, RU, UK
/TRV420E : AEP/TRV520E : AEP
/TRV525/TRV620E/TRV720/TRV720E

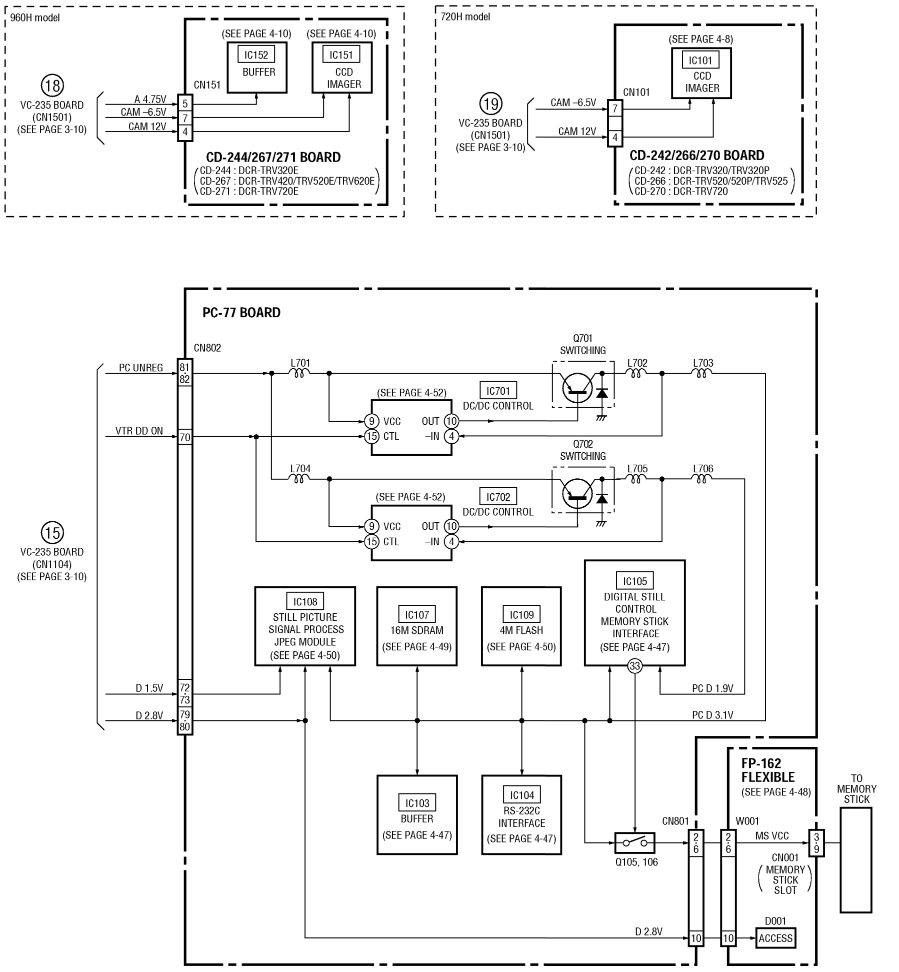
05

3-6. POWER BLOCK DIAGRAM 2


VC-235 BOARD (2/2)
MI-37 BOARD
FP-156 FLEXIBLE
(SEE PAGE 4-63)
CN1111
VTR UNREG
AU 2.8V
A 4.75V
CN5804
F3900
D3904
LASER AV LINK
IC5801
STEREO MIC AMP
(SEE PAGE 4-63)
IC3901
IR TRANSMITTER
(SEE PAGE 4-65)
IC3900
REMOTE COMMANDER RECEIVER
(SEE PAGE 4-66)
R5845
CN5801
PH001, 002
MANUAL FOCUS SENSOR
CONTROL SWITCH BLOCK
(FK-10000)
(SEE PAGE 4-87)
CN1107
D 2.8V
MT 5V
LED
IC3103
(TRW) REC/PB AMP
(SEE PAGE 4-30)
IC3101
(TRF) EQ, PLL, A/D CONVERTER
(SEE PAGE 4-29)
IC3301
VIDEO DSP D/A CONVERTER
(SEE PAGE 4-25)
IC3303
(LIP) DV INTERFACE
(SEE PAGE 4-28)
IC2201
Y/C PROCESSOR
(SEE PAGE 4-17)
IC3701
VIDEO IN/OUT
(SEE PAGE 4-22)
IC3603
(BBI) A/D CONVERTER AFC AGC
(SEE PAGE 4-24)
IC5702
A/D, D/A CONVERTER
(SEE PAGE 4-44)
IC5701
AUDIO IN/OUT
(SEE PAGE 4-44)
IC1501
TIMING GENERATOR
(SEE PAGE 4-15)
IC1502
S/H, AGC, A/D CONVERTER
(SEE PAGE 4-15)
IC2202
INVERTER
(SEE PAGE 4-17)
IC3102
GATE
(SEE PAGE 4-29)
FB3307
FB3303
R3308
FB2202
VTR UNREG
MT 5V
CAP VS
DRUM VS
D 1.5V
D 1.9V
1.9V
D 1.5V (CAIN)
D 2.8V
A 2.8V
AU 2.8V
RP 6V
A 4.75V
RP 4.75V
AU 4.75V
CAM –6.5V
CAM 12V
⑰
VC-235 BOARD (1/2)
(SEE PAGE 3-10)
IC4401
LOADING/DRUM MOTOR DRIVE, SENSOR AMP
(SEE PAGE-4-40)
IC2291
(EVR) D/A CONVERTER
(SEE PAGE-4-42)
IC3201
Hi 8/Std 8 PB AMP
(SEE PAGE 4-31)
IC3202
RF ENV DET
(SEE PAGE 4-32)
IC4501
Digital 8 MECHANISM CONTROL
(SEE PAGE 4-35)
IC4902
CAMERA CONTROL Hi 8/Std 8 MECHANISM CONTROL
(SEE PAGE 4-37)
22 ZOOM RESET LED
53 FC RESET LED
Q1552, Q1553
L1552
IC1553
ZOOM/FOCUS MOTOR DRIVE
(SEE PAGE 4-19)
IC1552
IRIS DRIVE, HALL AMP
(SEE PAGE 4-20)
IC4502
EEPROM
(SEE PAGE 4-36)
IC4901
EEPROM
(SEE PAGE 4-37)
R4411
R4407
CN4402
CN4404
CN4403
CN1551
DRUM MOTOR
M901
S REEL, T REEL SENSOR
H001, 002
CAPSTAN MOTOR
M902
MECHA DECK
(B700 MECHANISM) (SEE PAGE 4-39)
ZOOM, FOCUS SENSOR
ZOOM LENS
LENS UNIT
05

3-7. POWER BLOCK DIAGRAM 3


PD-117/118 BOARD
(PD-117 : 2.5 LCD model
PD-118 : 3/3.5/4 LCD model)
IC5501
RGB
DRIVER
(SEE PAGE 4-103, 111)
IC5602
CURRENT
DETECT
(SEE PAGE 4-105, 114)
Note : CN5501 pin name A/B
A : TYPE C model
B : TYPE S model
TYPE C model
CN5501
LCD901
VDD
LCD
PANEL
CN5701
PANEL 2.8V
PANEL –15.3V
PANEL 4.75V
PANEL 13.3V
VDD/VSH3V
VGL/VGL
VSH/VSH5V
VGH/VGH
Q5502 - 5506
⑳
VC-235 BOARD
(CN1109)
(SEE PAGE 3-10)
IC5601
BACK LIGHT
BRIGHT SWITCH
(SEE PAGE 4-105, 114)
IC5502
TIMING
GENERATOR
(SEE PAGE 4-103, 111)
IC5503
TYPE S model
BL CONT
BL REG
T5601
CN5604
ND901
BACK LIGHT
CN001
Q002, 003
CN005
CN5704
CN5705
VTR UNREG
LCD LED ON
EVR 3V
BATT LI 3V
IC5701
LCD
DRIVER
(SEE PAGE 4-106, 113)
LED901
BACK LIGHT
LCD902
CHARACTER
DISPLAY
BH001
LITHIUM
BATTERY
⑯
VC-235 BOARD
(CN1105)
(SEE PAGE 3-10)
LCD EVF model
D 2.8V
CAMERA
FUNCTION
SWITCH
IC4501
RGB
DRIVER
(SEE PAGE 4-94)
IC4502
TIMING
GENERATOR
(SEE PAGE 4-94)
CN006
CN4501
EVF 13.3V
EVF 2.8V
CN4502
LCD903
LCD
PANEL
EVF 13.3V
EVF 2.8V
EVF 4.75V
VF-141 BOARD
CN4601
EVF 4.75V
IC4601
BUFFER
(SEE PAGE 4-97)
T4601
ND4601
BACK LIGHT
LB-62 BOARD
CRT EVF model
VF-129 BOARD
CN007
CN901
EVF 4.75V
EVF 4.75V
IC901
VIDEO AMP,
CRT DRIVE
(SEE PAGE 4-89)
CF-69/70/72 BOARD
(CF-69 : 2.5 LCD model
CF-70 : 3/3.5 LCD model
CF-72 : 4 LCD model)
05


960H model
(SEE PAGE 4-10)
(SEE PAGE 4-10)
IC152
BUFFER
IC151
CCD
IMAGER
⑱
VC-235 BOARD
(CN1501)
(SEE PAGE 3-10)
CN151
A 4.75V
CAM –6.5V
CAM 12V
CD-244/267/271 BOARD
(CD-244 : DCR-TRV320E
CD-267 : DCR-TRV420/TRV520E/TRV620E
CD-271 : DCR-TRV720E)
720H model
(SEE PAGE 4-8)
IC101
CCD
IMAGER
⑲
VC-235 BOARD
(CN1501)
(SEE PAGE 3-10)
CAM –6.5V
CAM 12V
CN101
CD-242/266/270 BOARD
(CD-242 : DCR-TRV320/TRV320P
CD-266 : DCR-TRV520/520P/TRV525
CD-270 : DCR-TRV720)
PC-77 BOARD
CN802
PC UNREG
VTR DD ON
L701
Q701
SWITCHING
L702
L703
(SEE PAGE 4-52)
IC701
DC/DC CONTROL
VCC
CTL
OUT
–IN
L704
Q702
SWITCHING
L705
L706
(SEE PAGE 4-52)
IC702
DC/DC CONTROL
VCC
CTL
OUT
–IN
⑮
VC-235 BOARD
(CN1104)
(SEE PAGE 3-10)
IC108
STILL PICTURE
SIGNAL PROCESS
JPEG MODULE
(SEE PAGE 4-50)
IC107
16M SDRAM
(SEE PAGE 4-49)
IC109
4M FLASH
(SEE PAGE 4-50)
IC105
DIGITAL STILL
CONTROL
MEMORY STICK
INTERFACE
(SEE PAGE 4-47)
D 1.5V
D 2.8V
PC D 1.9V
PC D 3.1V
IC103
BUFFER
(SEE PAGE 4-47)
IC104
RS-232C
INTERFACE
(SEE PAGE 4-47)
Q105, 106
CN801
FP-162
FLEXIBLE
(SEE PAGE 4-48)
W001
MS VCC
CN001
(MEMORY
STICK
SLOT)
D001
ACCESS
TO
MEMORY
STICK
D 2.8V

720H model : DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H model : DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

2.5 LCD model : DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD model : DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD model : DCR-TRV720/TRV720E

CRT EVF model : DCR-TRV320/TRV320E : AUS, CN, E, HK/TRV320P /TRV420E : CN/TRV520
/TRV520E : AUS, CN, E, HK, JE/TRV520P
LCD EVF model : DCR-TRV320E : AEP, EE, NE, RU, UK/TRV420E : AEP/TRV520E : AEP
/TRV525/TRV620E/TRV720/TRV720E

TYPE C/S model : Please refer to page 9 to discriminate the type of LCD

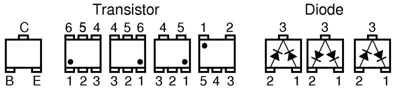
SECTION 4

PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS
(In addition to this, the necessary note is printed in each block)

(For printed wiring boards)

- ▒: Pattern from the side which enables seeing. (The other layers' patterns are not indicated)
- Through hole is omitted.
- Circled numbers refer to waveforms.
- There are few cases that the part printed on diagram isn't mounted in this model.
- Chip parts.



(For schematic diagrams)

- All capacitors are in μF unless otherwise noted. pF : μμF. 50 V or less are not indicated except for electrolytics and tantalums.
- Chip resistors are 1/10 W unless otherwise noted. kΩ=1000 Ω, MΩ=1000 kΩ.
- Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat.
- Some chip part will be indicated as follows.

Example C541 L452
22U 10UH
TA A 2520

Kinds of capacitor
Temperature characteristics
External dimensions (mm)

- Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated.
- Parts with ★ differ according to the model/destination. Refer to the mount table for each function.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Signal name
  XEDIT → $\overline{\text{EDIT}}$ PB/XREC → PB/$\overline{\text{REC}}$
- ▭: non flammable resistor
- ∿: fusible resistor
- ▭: panel designation
- ▬▬: B+ Line *
- ▬ ▬ ▬: B– Line *
- ⇨ : IN/OUT direction of (+,–) B LINE. *
- ▭: adjustment for repair. *
- Circled numbers refer to waveforms. *

* Indicated by the color red.

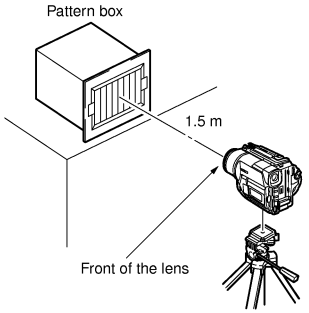
Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Note : Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifie.

(Measuring conditions voltage and waveform)

- Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference waveforms. * (VOM of DC 10 MΩ input impedance is used)
- Voltage values change depending upon input impedance of VOM used.)

1. Connection



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

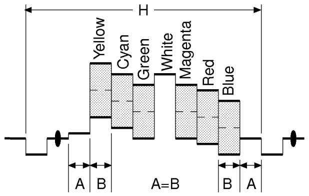


Fig. a (Video output terminal output waveform)

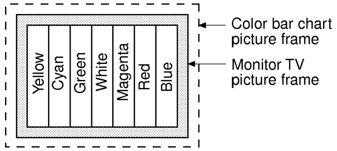
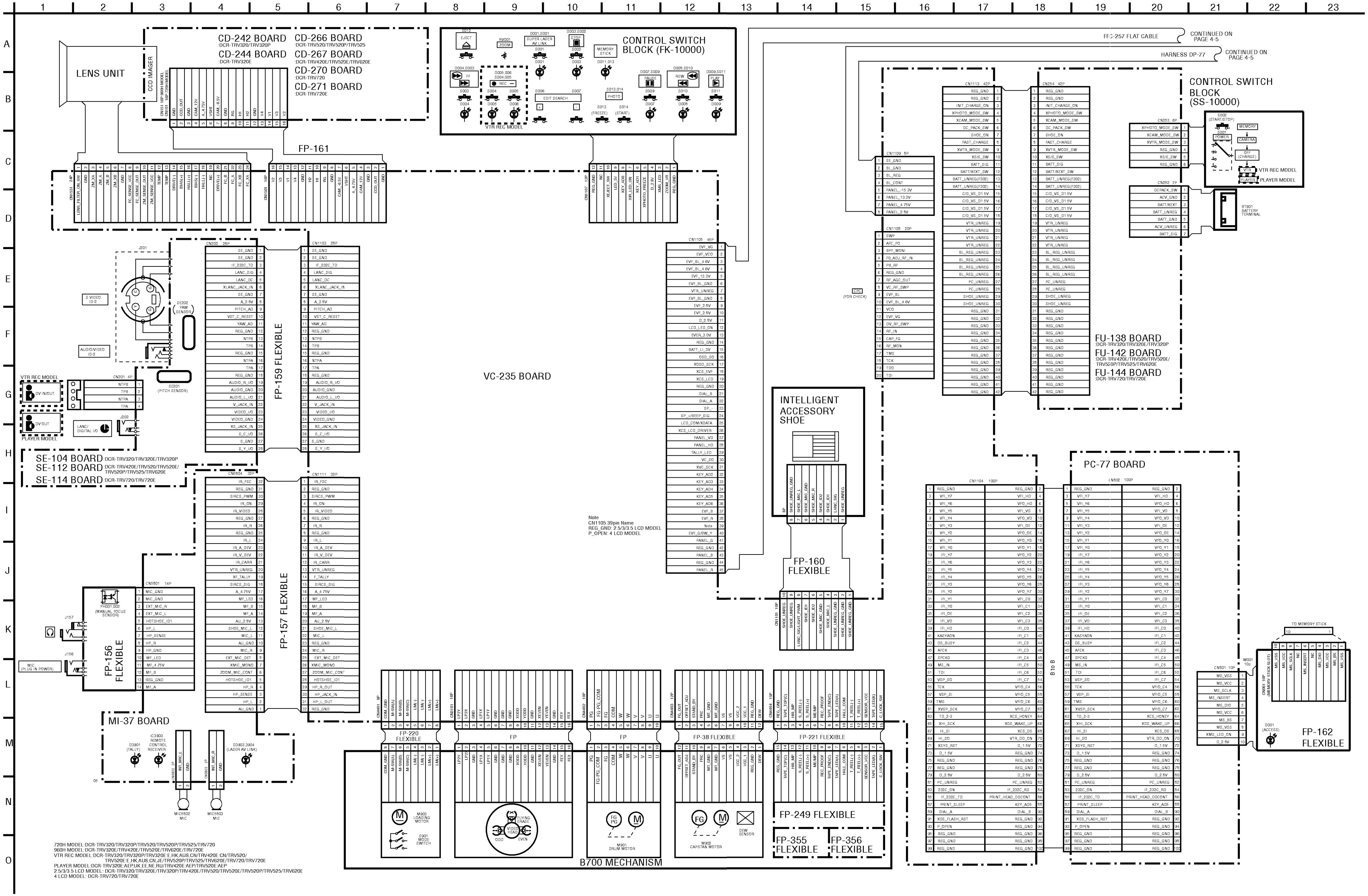


Fig.b (Picture on monitor TV)

When indicating parts by reference number, please include the board name.

4-1. FRAME SCHEMATIC DIAGRAMS

FRAME (1/2) SCHEMATIC DIAGRAM

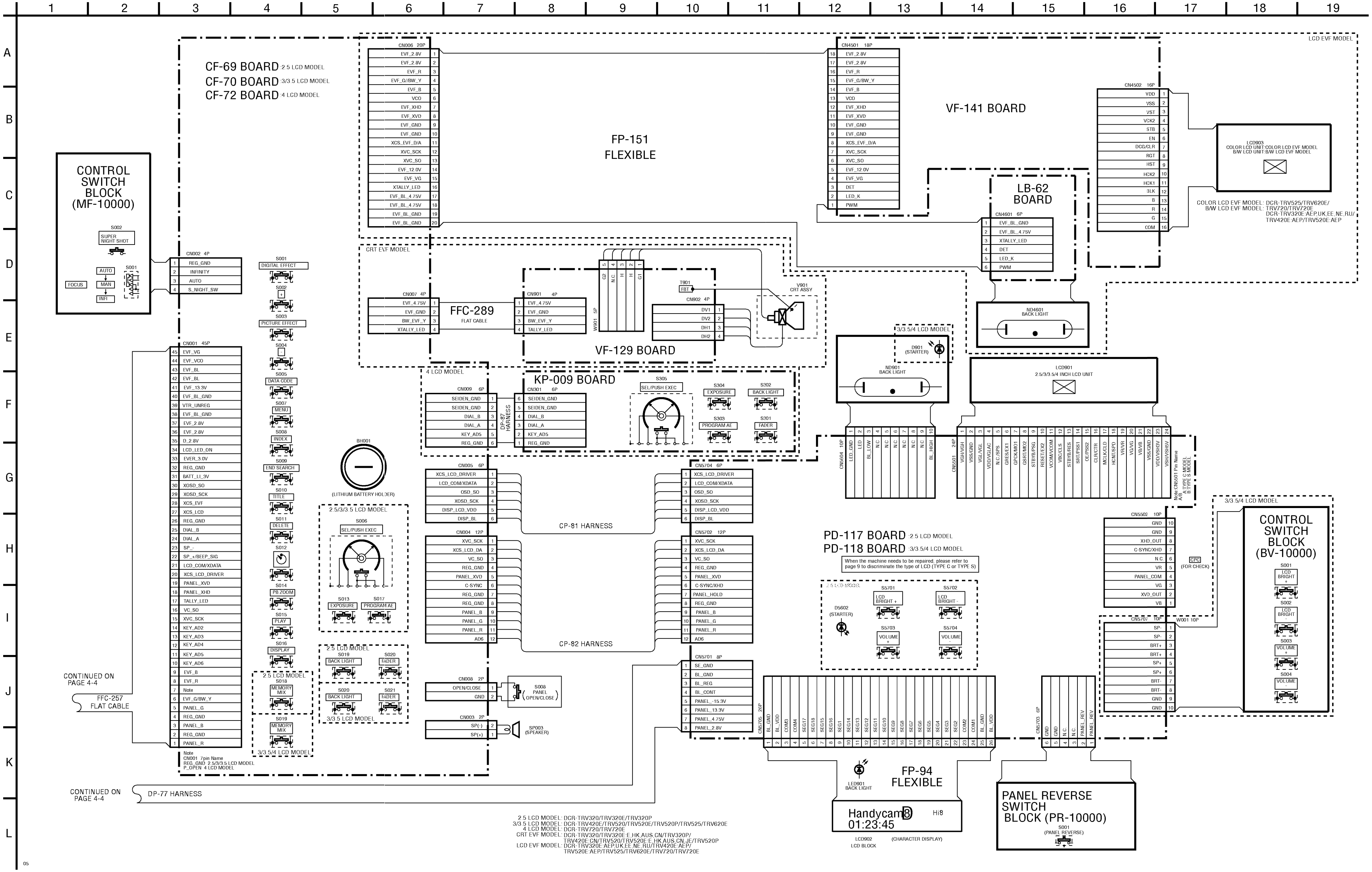

LENS UNIT
CCD IMAGER
CD-242 BOARD :DCR-TRV320/TRV320P
CD-244 BOARD :DCR-TRV320E
CD-266 BOARD :DCR-TRV520/TRV520P/TRV525
CD-267 BOARD :DCR-TRV420E/TRV520E/TRV620E
CD-270 BOARD :DCR-TRV720
CD-271 BOARD :DCR-TRV720E
CONTROL SWITCH BLOCK (FK-10000)
FP-161
VTR REC MODEL
SE-104 BOARD :DCR-TRV320/TRV320E/TRV320P
SE-112 BOARD :DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
SE-114 BOARD :DCR-TRV720/TRV720E
PLAYER MODEL
FP-159 FLEXIBLE
FP-157 FLEXIBLE
VC-235 BOARD
FP-156 FLEXIBLE
MI-37 BOARD
MIC5802 MIC
MIC5803 MIC
FF-257 FLAT CABLE
CONTINUED ON PAGE 4-5
HARNESS DP-77
CONTINUED ON PAGE 4-5
CONTROL SWITCH BLOCK (SS-10000)
BT901 BATTERY TERMINAL
FU-138 BOARD :DCR-TRV320/TRV320E/TRV320P
FU-142 BOARD :DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
FU-144 BOARD :DCR-TRV720/TRV720E
INTELLIGENT ACCESSORY SHOE
FP-160 FLEXIBLE
PC-77 BOARD
B to B
FP-162 FLEXIBLE
TO MEMORY STICK
FP-220 FLEXIBLE
FP
FP
FP-38 FLEXIBLE
FP-221 FLEXIBLE
FP-249 FLEXIBLE
FP-355 FLEXIBLE
FP-356 FLEXIBLE
M903 LOADING MOTOR
S901 MODE SWITCH
VIDEO HEAD
ODD
EVEN
FLYING ERASE
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
DEW SENSOR
B700 MECHANISM

Note
CN1105 39pin Name
REG_GND: 2.5/3/3.5 LCD MODEL
P_OPEN: 4 LCD MODEL

720H MODEL:DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H MODEL:DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
VTR REC MODEL:DCR-TRV320/TRV320P/TRV320E:E,HK,AUS,CN/TRV420E:CN/TRV520/
TRV520E:E,HK,AUS,CN,JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP
2.5/3/3.5 LCD MODEL: DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD MODEL: DCR-TRV720/TRV720E

FRAME (1/2)

FRAME (2/2) SCHEMATIC DIAGRAM


CF-69 BOARD 2.5 LCD MODEL
CF-70 BOARD 3/3.5 LCD MODEL
CF-72 BOARD 4 LCD MODEL
CONTROL SWITCH BLOCK (MF-10000)
S002 SUPER NIGHT SHOT
S001 AUTO MAN INFI
FOCUS
CN002 4P
REG_GND
INFINITY
AUTO
S_NIGHT_SW
CN001 45P
CONTINUED ON PAGE 4-4
FFC-257 FLAT CABLE
DP-77 HARNESS
CN006 20P
FP-151 FLEXIBLE
CN4501 18P
VF-141 BOARD
LCD EVF MODEL
CN4502 16P
LCD903 COLOR LCD UNIT:COLOR LCD EVF MODEL B/W LCD UNIT:B/W LCD EVF MODEL
COLOR LCD EVF MODEL: DCR-TRV525/TRV620E/ B/W LCD EVF MODEL: TRV720/TRV720E DCR-TRV320E:AEP,UK,EE,NE,RU/ TRV420E:AEP/TRV520E:AEP
LB-62 BOARD
CN4601 6P
ND4601 BACK LIGHT
CRT EVF MODEL
CN007 4P
FFC-289 FLAT CABLE
CN901 4P
VF-129 BOARD
T901 FBT
CN902 4P
V901 CRT ASSY
3/3.5/4 LCD MODEL
D901 (STARTER)
ND901 BACK LIGHT
LCD901 2.5/3/3.5/4 INCH LCD UNIT
4 LCD MODEL
KP-009 BOARD
CN009 6P
DP-87 HARNESS
CN301 6P
S305 SEL/PUSH EXEC
S304 EXPOSURE
S302 BACK LIGHT
S303 PROGRAM AE
S301 FADER
BH001 (LITHIUM BATTERY HOLDER)
S001 DIGITAL EFFECT
S003 PICTURE EFFECT
S005 DATA CODE
S007 MENU
S008 INDEX
S009 END SEARCH
S010 TITLE
S011 DELETE
S014 PB ZOOM
S015 PLAY
S016 DISPLAY
2.5/3/3.5 LCD MODEL
S006 SEL/PUSH EXEC
S013 EXPOSURE
S017 PROGRAM AE
2.5 LCD MODEL
S019 BACK LIGHT
S020 FADER
S018 MEMORY MIX
S021 FADER
3/3.5 LCD MODEL
3/3.5/4 LCD MODEL
CN005 6P
CN5704 6P
CP-81 HARNESS
CN004 12P
CN5702 12P
CP-82 HARNESS
CN5701 8P
CN008 2P
S008 PANEL OPEN/CLOSE
CN003 2P
SP003 (SPEAKER)
CN5604 10P
CN5501 24P
PD-117 BOARD 2.5 LCD MODEL
PD-118 BOARD 3/3.5/4 LCD MODEL
When the machine needs to be repaired, please refer to page 9 to discriminate the type of LCD (TYPE C or TYPE S)
D5602 (STARTER)
S5701 LCD BRIGHT +
S5702 LCD BRIGHT -
S5703 VOLUME +
S5704 VOLUME -
CN5502 10P
CN5707 10P
W001 10P
CONTROL SWITCH BLOCK (BV-10000)
S001 LCD BRIGHT +
S002 LCD BRIGHT -
S003 VOLUME +
S004 VOLUME -
CN5705 26P
CN5703 6P
FP-94 FLEXIBLE
LED901 BACK LIGHT
Handycam Hi8 01:23:45
LCD902 LCD BLOCK (CHARACTER DISPLAY)
PANEL REVERSE SWITCH BLOCK (PR-10000)
S001 (PANEL REVERSE)
Note CN001 7pin Name REG_GND 2.5/3/3.5 LCD MODEL P_OPEN 4 LCD MODEL

2.5 LCD MODEL: DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD MODEL: DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD MODEL: DCR-TRV720/TRV720E
CRT EVF MODEL: DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P/
TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P
LCD EVF MODEL: DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/
TRV520E:AEP/TRV525/TRV620E/TRV720/TRV720E

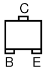
4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

CD-242/266/270 (CCD IMAGER) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM • See page 4-119 for waveforms.

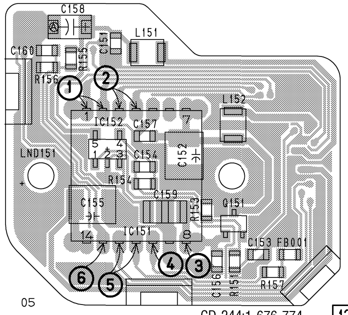
– Ref. No.: CD-242/266/270 board; 20,000 series –

– DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720 –

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor

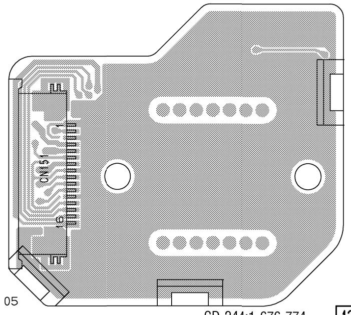


CD-244/267/271 BOARD
(SIDE A)

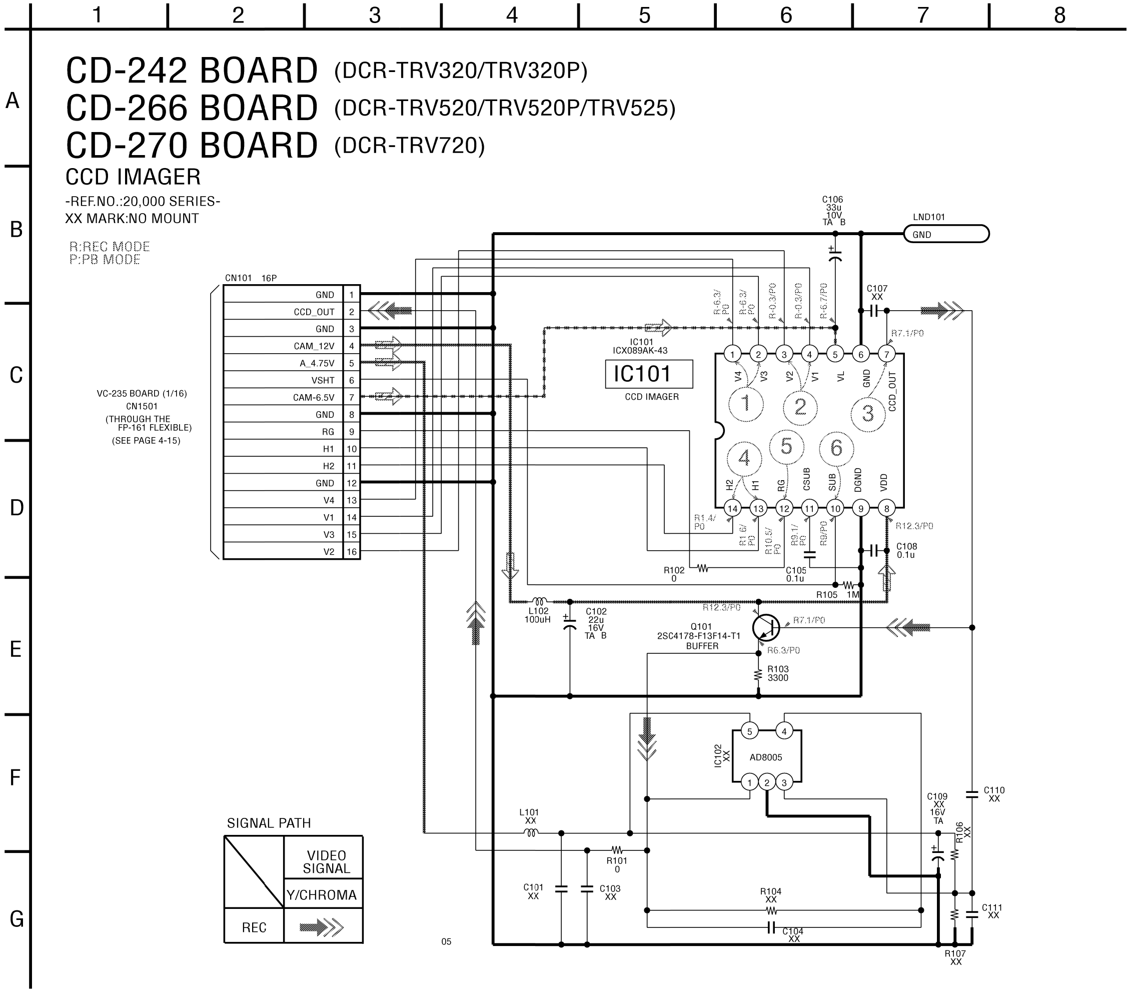

C158
C160
R155
C151
L151
R156
1
2
L152
IC152
C157
LND151
C154
C152
R154
C155
C159
Q151
IC151
14
8
C153
FB001
4
3
6
5
C156
R151
R157
05

CD-244:1-676-774- 12(22)
CD-267:1-676-760- 11(21)
CD-271:1-676-767- 11

CD-244/267/271 BOARD
(SIDE B)


CN151
1
16
05

CD-244:1-676-774- 12(22)
CD-267:1-676-760- 11(21)
CD-271:1-676-767- 11



CD-242 BOARD (DCR-TRV320/TRV320P)
CD-266 BOARD (DCR-TRV520/TRV520P/TRV525)
CD-270 BOARD (DCR-TRV720)
CCD IMAGER
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
R:REC MODE
P:PB MODE
CN101 16P
GND 1
CCD_OUT 2
GND 3
CAM_12V 4
A_4.75V 5
VSHT 6
CAM-6.5V 7
GND 8
RG 9
H1 10
H2 11
GND 12
V4 13
V1 14
V3 15
V2 16
VC-235 BOARD (1/16)
CN1501
(THROUGH THE
FP-161 FLEXIBLE)
(SEE PAGE 4-15)
IC101
ICX089AK-43
IC101
CCD IMAGER
V4
V3
V2
V1
VL
GND
CCD_OUT
H2
H1
RG
CSUB
SUB
DGND
VDD
R-6.3/P0
R-6.3/P0
R-0.3/P0
R-0.3/P0
R-6.7/P0
R7.1/P0
R1.4/P0
R1.6/P0
R10.5/P0
R9.1/P0
R9/P0
R12.3/P0
C106
33u
10V
TA B
LND101
GND
C107
XX
C108
0.1u
C105
0.1u
R102
0
R105 1M
L102
100uH
C102
22u
16V
TA B
R12.3/P0
Q101
2SC4178-F13F14-T1
BUFFER
R7.1/P0
R6.3/P0
R103
3300
IC102
XX
AD8005
C109
XX
16V
TA
C110
XX
R106
XX
L101
XX
R101
0
C101
XX
C103
XX
R104
XX
C104
XX
C111
XX
R107
XX
05
SIGNAL PATH
VIDEO SIGNAL
Y/CHROMA
REC

Precautions for Replacement of CCD Imager

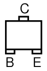
- The CD-242/266/270 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

CD-244/267/271 (CCD IMAGER) PRINTED WIRING BOARD AND SHEMATIC DIAGRAM • See page 4-119 for waveforms.

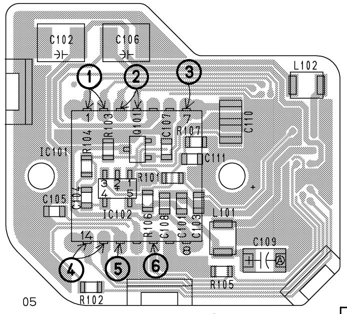
– Ref. No.: CD-244/267/271 board; 20,000 series –

– DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E –

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor

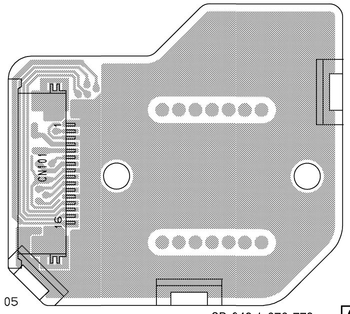


CD-242/266/270 BOARD (SIDE A)

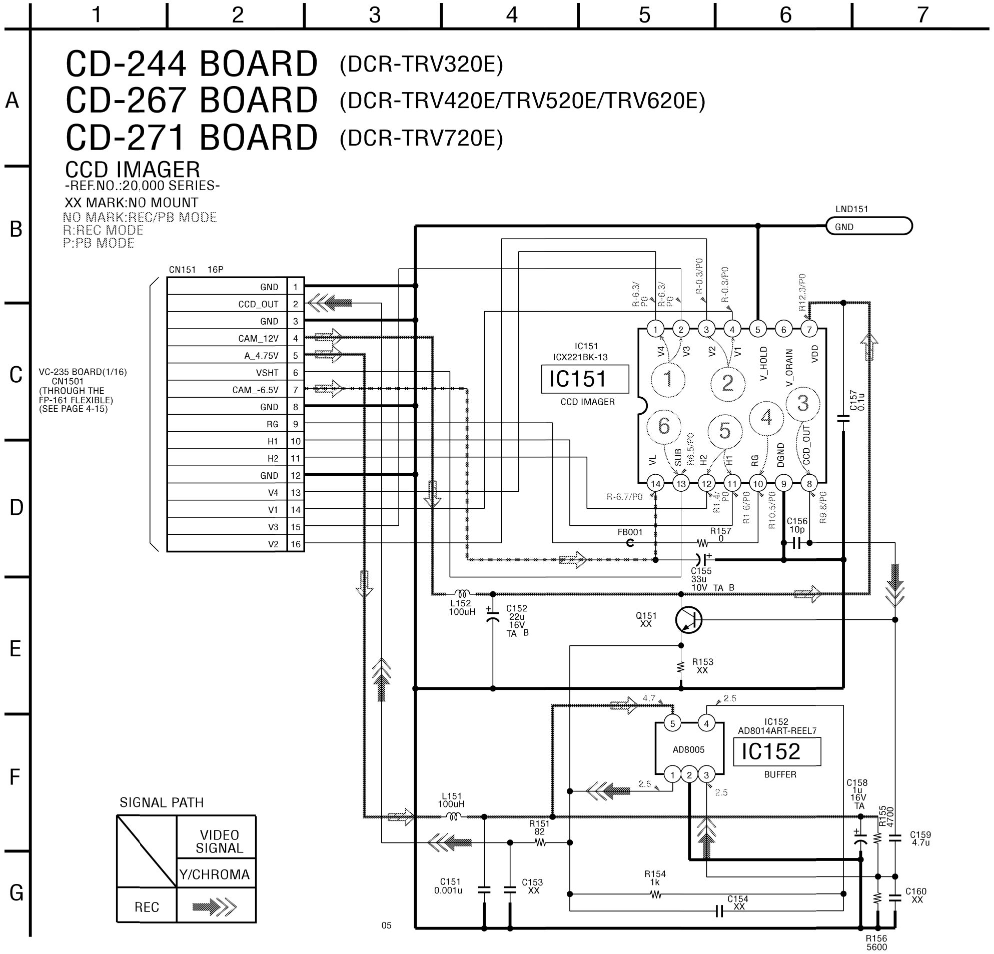

C102
C106
L102
①
②
③
IC101
R104
R103
Q101
C107
R107
C110
C111
R101
C105
IC102
L101
C109
R106
C108
R105
R102
④
⑤
⑥
05

CD-242:1-676-773- 12(22)
CD-266:1-676-759- 11(21)
CD-270:1-676-766- 11

CD-242/266/270 BOARD (SIDE B)



CD-242:1-676-773- 12(22)
CD-266:1-676-759- 11(21)
CD-270:1-676-766- 11


1
2
3
4
5
6
7
A
B
C
D
E
F
G
CD-244 BOARD (DCR-TRV320E)
CD-267 BOARD (DCR-TRV420E/TRV520E/TRV620E)
CD-271 BOARD (DCR-TRV720E)
CCD IMAGER
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE
LND151
GND
CN151 16P
GND 1
CCD_OUT 2
GND 3
CAM_12V 4
A_4.75V 5
VSHT 6
CAM_-6.5V 7
GND 8
RG 9
H1 10
H2 11
GND 12
V4 13
V1 14
V3 15
V2 16
VC-235 BOARD(1/16)
CN1501
(THROUGH THE FP-161 FLEXIBLE)
(SEE PAGE 4-15)
IC151
ICX221BK-13
IC151
CCD IMAGER
V4
V3
V2
V1
V_HOLD
V_DRAIN
VDD
VL
SUB
H2
H1
RG
DGND
CCD_OUT
R-6.3/P0
P-6.3/P0
R-0.3/P0
R-0.3/P0
R12.3/P0
R-6.7/P0
R6.5/P0
R1.4/P0
R1.6/P0
R10.5/P0
R9.8/P0
C157 0.1u
FB001
R157 0
C156 10p
C155 33u 10V TA B
L152 100uH
C152 22u 16V TA B
Q151 XX
R153 XX
4.7
2.5
IC152
AD8014ART-REEL7
IC152
BUFFER
AD8005
2.5
2.5
L151 100uH
R151 82
C158 1u 16V TA
R155 4700
C159 4.7u
R154 1k
C151 0.001u
C153 XX
C154 XX
C160 XX
R156 5600
05
SIGNAL PATH
VIDEO SIGNAL
Y/CHROMA
REC

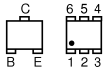
Precautions for Replacement of CCD Imager

- The CD-244/267/271 board mounted as a repair part is not equipped with a CCD imager.
  When replacing this board, remove the CCD imager from the old one and mount it onto the new one.
- If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC.
  In addition, ensure that the receiver is not covered with dusts nor exposed to strong light.

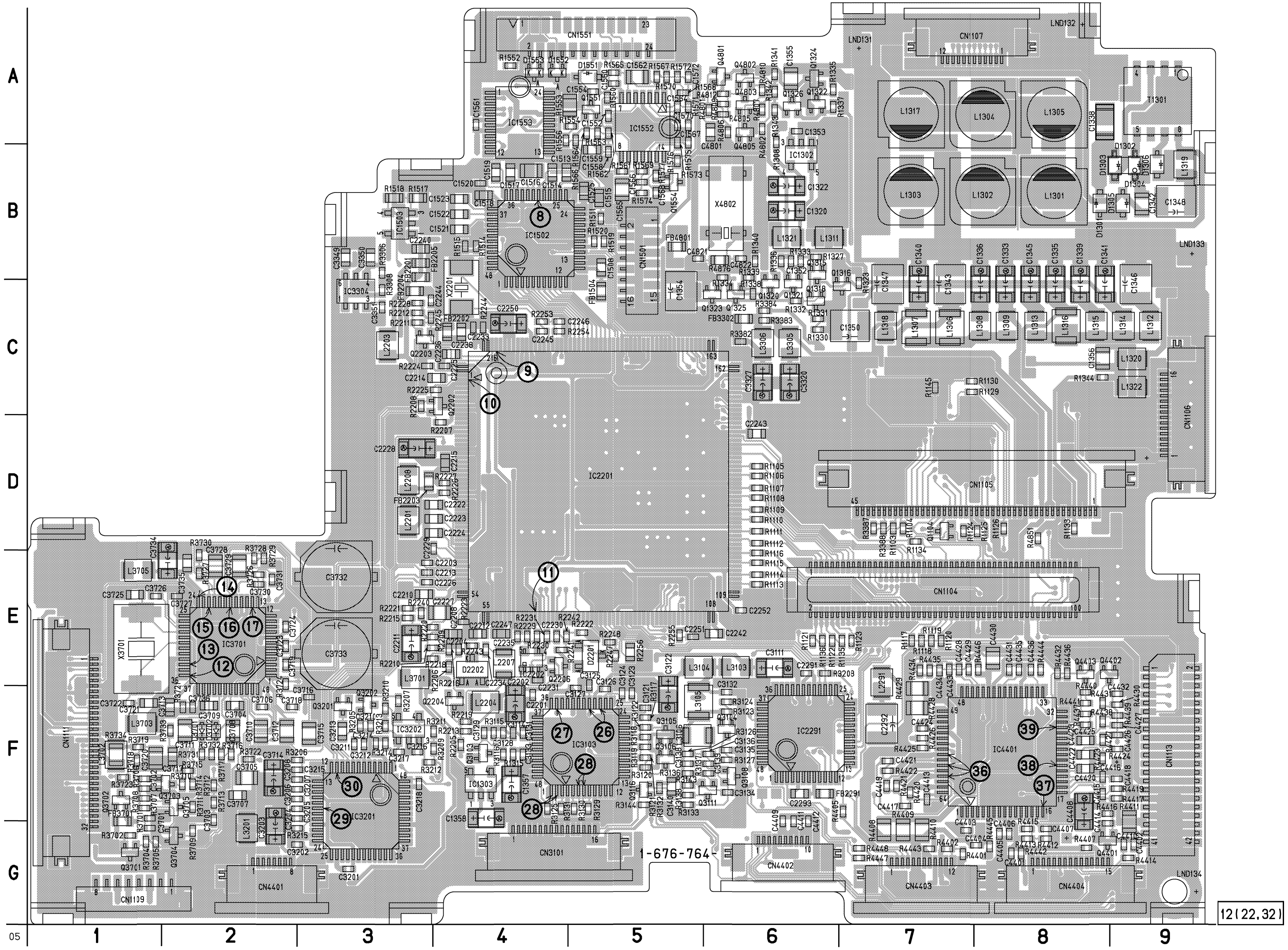
VC-235 (CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, VIDEO/AUDIO IN/OUT, BASE BAND INPUT, VIDEO /AUDIO DSP, DV INTERFACE, OSD, A/D CONVERTER, REC/PB AMP, Hi8/Std8 PB AMP, HI/MECHANISM/CAMERA CONTROL, SERVO, D/A CONVERTER, DC/DC CONVERTER) PRINTED WIRING BOARD

– Ref. No.: VC-235 board; 10,000 series –

- **For Printed Wiring Board.**
- VC-235 board is eight-layer print board. However, the patterns of layers 2 to 7 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-124, 125 for printed parts location.
- Chip transistor



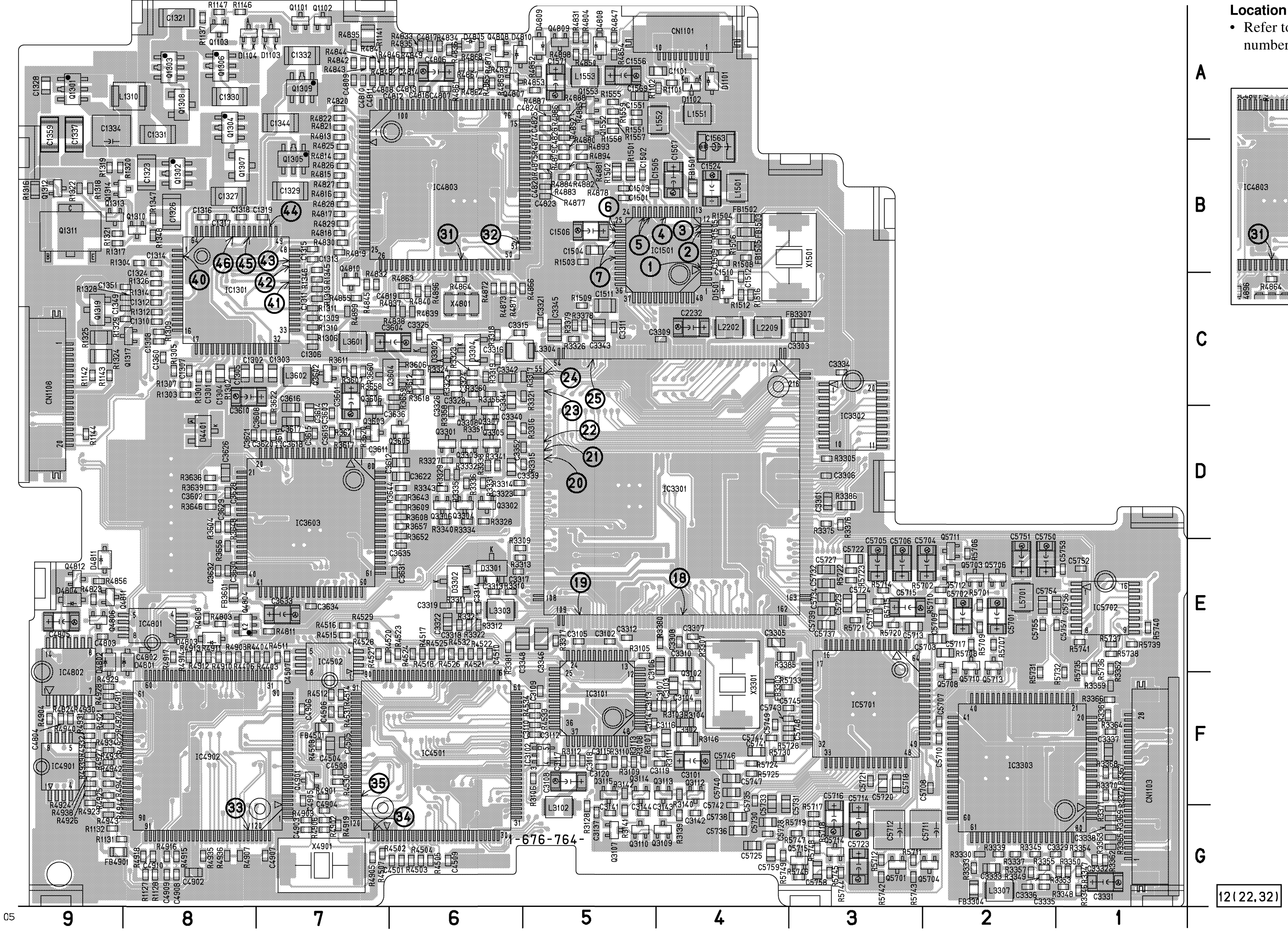
VC-235 BOARD (SIDE A)


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
05
CN1551
CN1107
IC1553
IC1552
IC1502
IC1302
X4802
L1317
L1304
L1305
L1303
L1302
L1301
T1301
CN1501
IC3304
IC2201
CN1106
CN1105
CN1104
IC3701
X3701
C3732
C3733
IC3103
IC2291
IC4401
IC3201
IC1303
CN1111
CN1113
CN1109
CN4401
CN3101
CN4402
CN4403
CN4404
1-676-764-
12(22,32)
LND131
LND132
LND133
LND134

CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, VIDEO/AUDIO IN/OUT, BASE BAND INPUT, VIDEO/AUDIO DSP, DV INTERFACE, OSD, A/D CONVERTER, REC/PB AMP, Hi8/Std8 PB AMP, HI/MECHANISM/CAMERA CONTROL, SERVO, D/A CONVERTER, DC/DC CONVERTER

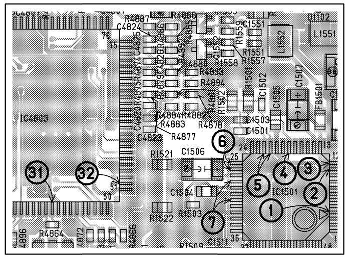
VC-235

VC-235 BOARD (SIDE B)


IC1301
IC1501
IC3101
IC3301
IC3302
IC3303
IC3603
IC4501
IC4502
IC4801
IC4802
IC4803
IC4901
IC4902
IC5701
IC5702
CN1101
CN1103
CN1108
X1501
X3301
X4801
X4901
1-676-764-
12(22,32)
A
B
C
D
E
F
G
9
8
7
6
5
4
3
2
1

VC-235 BOARD (SIDE B)
Part No. 1-676-764-13 (23, 33)
Location: B – 5

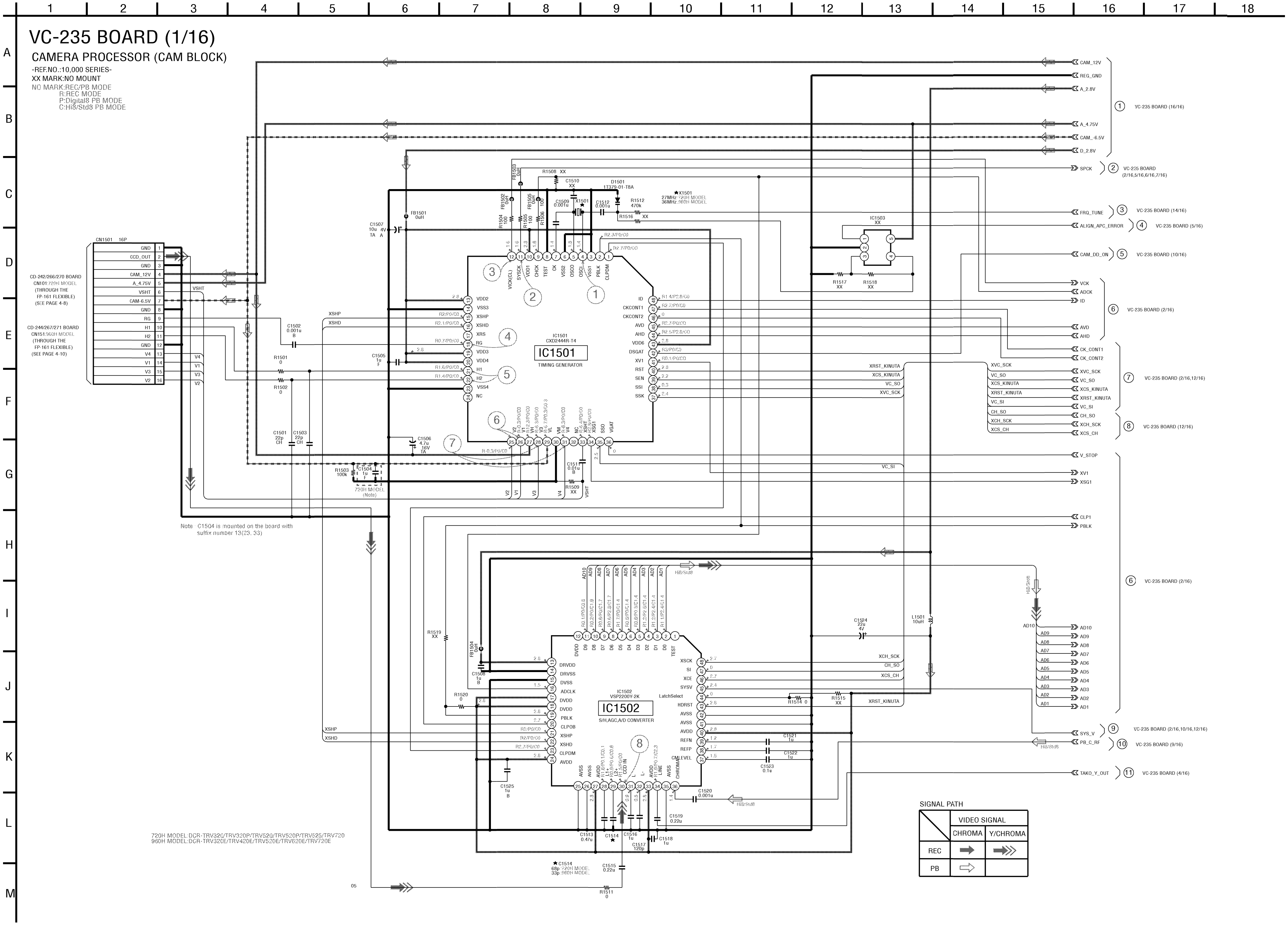
- Refer to the printed wiring board for suffix number 12 (22, 32) for the parts not be shown here.


IC4803
IC1501
L1551
L1552
D1102

CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, VIDEO/AUDIO IN/OUT, BASE BAND INPUT, VIDEO/AUDIO DSP, DV INTERFACE, OSD, A/D CONVERTER, REC/PB AMP, Hi8/Std8 PB AMP, HI/MECHANISM/CAMERA CONTROL, SERVO, D/A CONVERTER, DC/DC CONVERTER

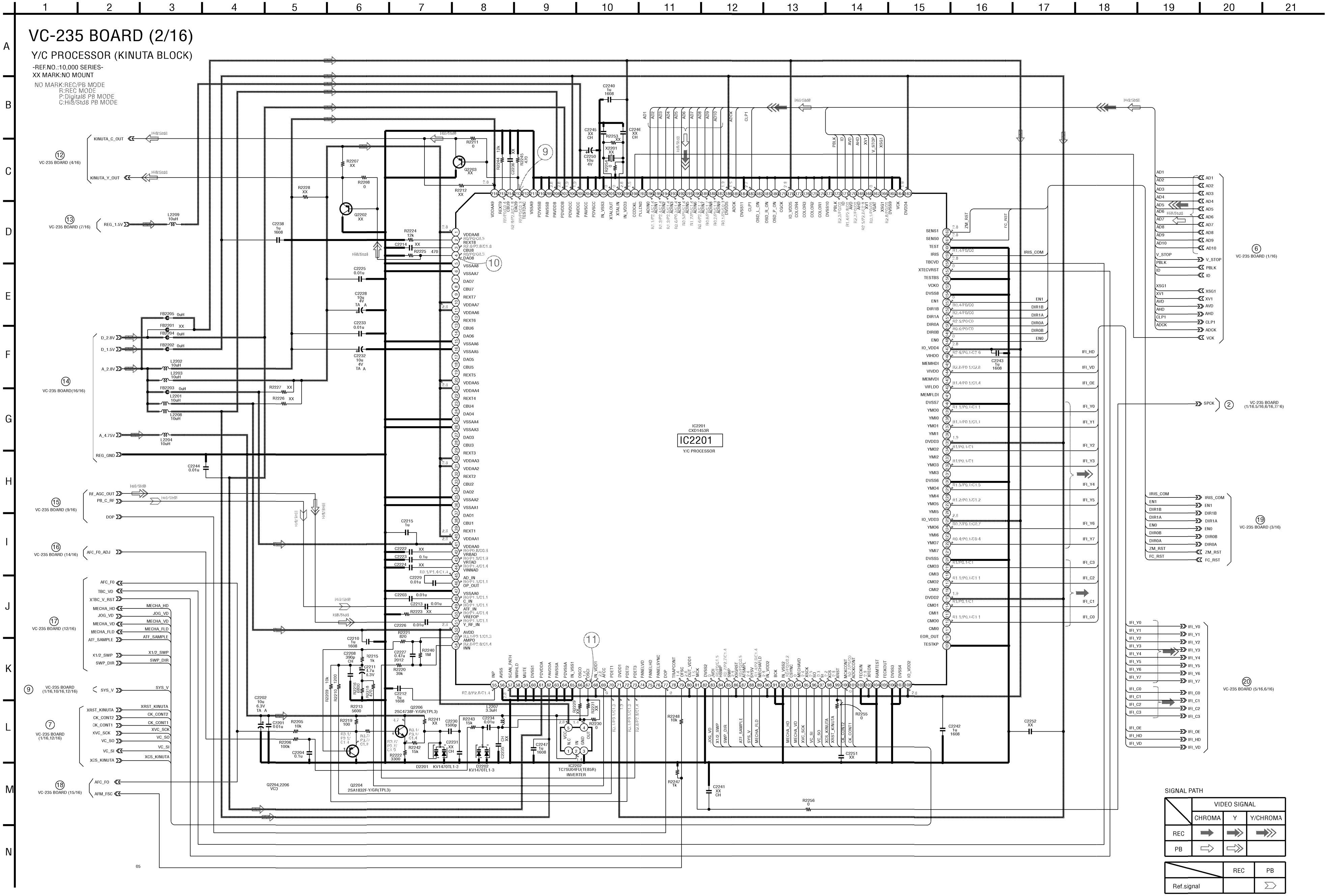
VC-235

VC-235 (CAMERA PROCESSOR) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-119 for waveforms.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I J K L M
VC-235 BOARD (1/16)
CAMERA PROCESSOR (CAM BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
CN1501 16P
GND, CCD_OUT, GND, CAM_12V, A_4.75V, VSHT, CAM-6.5V, GND, RG, H1, H2, GND, V4, V1, V3, V2
CD-242/266/270 BOARD CN101:720H MODEL (THROUGH THE FP-161 FLEXIBLE) (SEE PAGE 4-8)
CD-244/267/271 BOARD CN151:960H MODEL (THROUGH THE FP-161 FLEXIBLE) (SEE PAGE 4-10)
IC1501 CXD2444R-T4
TIMING GENERATOR
IC1502 VSP2200Y-2K
S/H,AGC,A/D CONVERTER
IC1503 XX
X1501 27MHz:720H MODEL 36MHz:960H MODEL
D1501 1T379-01-T8A
Note : C1504 is mounted on the board with suffix number 13(23, 33)
C1514 68p:720H MODEL 33p:960H MODEL
720H MODEL:DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H MODEL:DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
CAM_12V, REG_GND, A_2.8V, A_4.75V, CAM_-6.5V, D_2.8V — ① VC-235 BOARD (16/16)
SPCK — ② VC-235 BOARD (2/16,5/16,6/16,7/16)
FRQ_TUNE — ③ VC-235 BOARD (14/16)
ALIGN_APC_ERROR — ④ VC-235 BOARD (5/16)
CAM_DD_ON — ⑤ VC-235 BOARD (10/16)
VCK, ADCK, ID, AVD, AHD — ⑥ VC-235 BOARD (2/16)
CK_CONT1, CK_CONT2, XVC_SCK, VC_SO, XCS_KINUTA, XRST_KINUTA, VC_SI — ⑦ VC-235 BOARD (2/16,12/16)
CH_SO, XCH_SCK, XCS_CH — ⑧ VC-235 BOARD (12/16)
V_STOP, XV1, XSG1, CLP1, PBLK, AD10–AD1 — ⑥ VC-235 BOARD (2/16)
SYS_V — ⑨ VC-235 BOARD (2/16,10/16,12/16)
PB_C_RF — ⑩ VC-235 BOARD (9/16)
TAKO_Y_OUT — ⑪ VC-235 BOARD (4/16)
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y/CHROMA
REC
PB

CAMERA PROCESSOR
VC-235 (1/16)

VC-235 (Y/C PROCESSOR) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-119, 120 for waveforms.

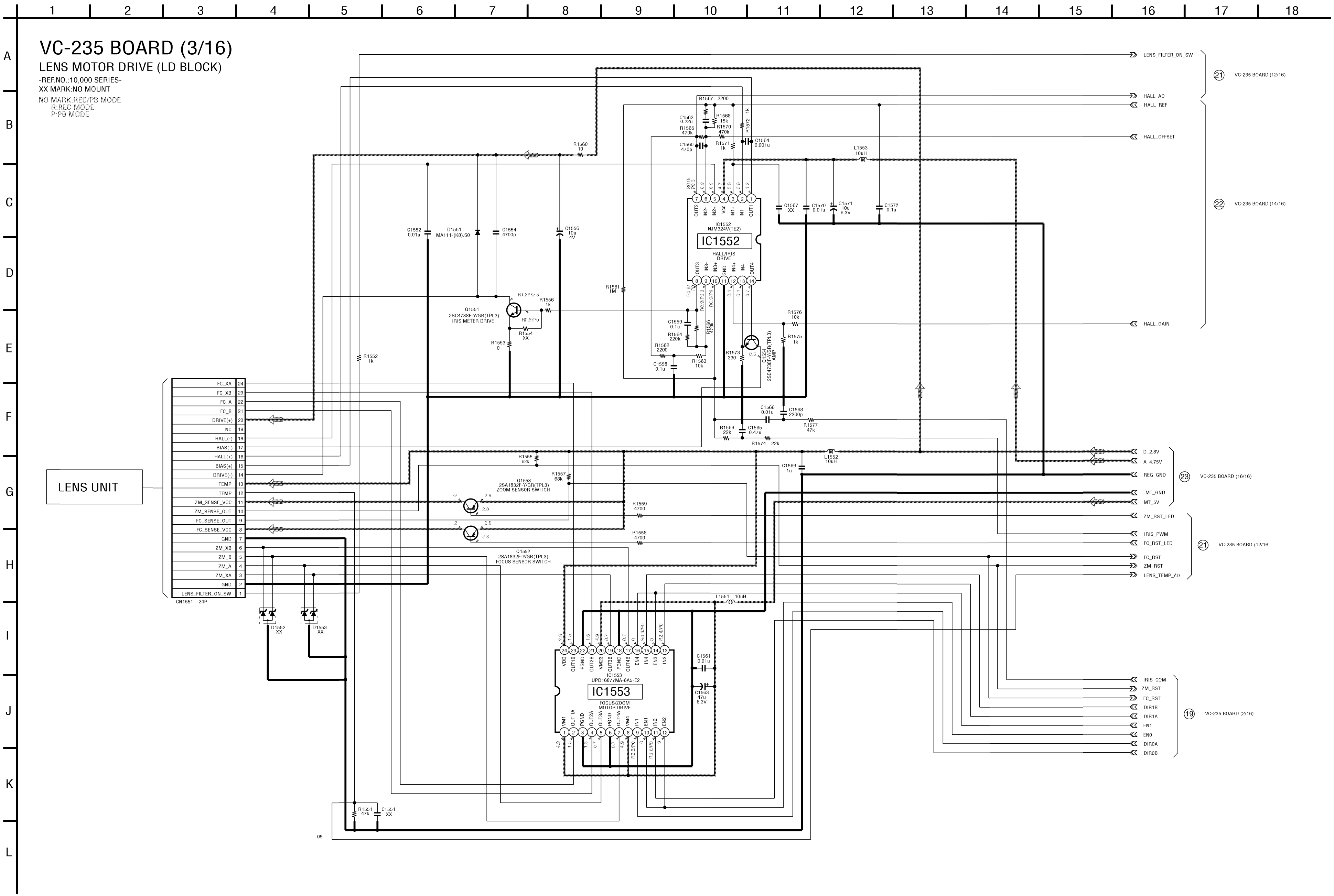

VC-235 BOARD (2/16)
Y/C PROCESSOR (KINUTA BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
IC2201
CXD1453R
Y/C PROCESSOR
IC2202
TC7SU04FU(TE85R)
INVERTER
Q2203
Q2202
Q2206
2SC4738F-Y/GR(TPL3)
Q2204
2SA1832F-Y/GR(TPL3)
Q2204,2206
VCO
D2201 KV1470TL1-3
D2202 KV1470TL1-3
X2201
(12) VC-235 BOARD (4/16)
KINUTA_C_OUT
KINUTA_Y_OUT
(13) VC-235 BOARD (7/16)
REG_1.5V
(14) VC-235 BOARD(16/16)
D_2.8V
D_1.5V
A_2.8V
A_4.75V
REG_GND
(15) VC-235 BOARD (9/16)
RF_AGC_OUT
PB_C_RF
DOP
(16) VC-235 BOARD (14/16)
AFC_F0_ADJ
(17) VC-235 BOARD (12/16)
AFC_F0
TBC_VD
XTBC_V_RST
MECHA_HD
JOG_VD
MECHA_VD
MECHA_FLD
ATF_SAMPLE
X1/2_SWP
SWP_DIR
(9) VC-235 BOARD (1/16,10/16,12/16)
SYS_V
(7) VC-235 BOARD (1/16,12/16)
XRST_KINUTA
CK_CONT2
CK_CONT1
XVC_SCK
VC_SO
VC_SI
XCS_KINUTA
(18) VC-235 BOARD (15/16)
AFC_F0
AFM_FSC
(6) VC-235 BOARD (1/16)
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
V_STOP
PBLK
ID
XSG1
XV1
AVD
AHD
CLP1
ADCK
VCK
(2) VC-235 BOARD (1/16,5/16,6/16,7/16)
SPCK
(19) VC-235 BOARD (3/16)
IRIS_COM
EN1
DIR1B
DIR1A
EN0
DIR0B
DIR0A
ZM_RST
FC_RST
(20) VC-235 BOARD (5/16,6/16)
IFI_Y0
IFI_Y1
IFI_Y2
IFI_Y3
IFI_Y4
IFI_Y5
IFI_Y6
IFI_Y7
IFI_C0
IFI_C1
IFI_C2
IFI_C3
IFI_OE
IFI_HD
IFI_VD
(9)
(10)
(11)
05
SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	➡
PB	⇨	⇨	⇨

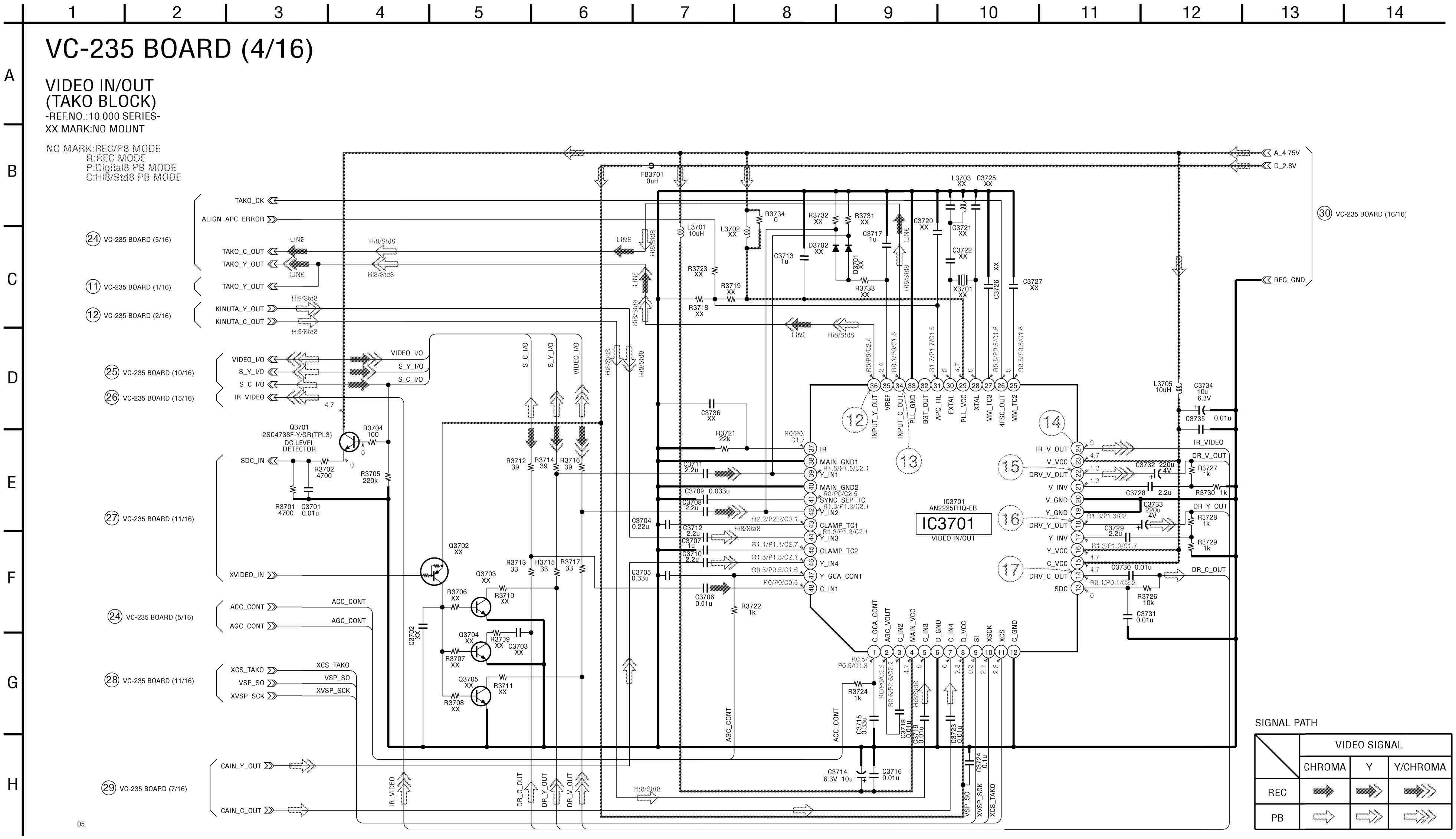
	REC	PB
Ref.signal		⇨

Y/C PROCESSOR
VC-235 (2/16)

VC-235 (LENS MOTOR DRIVE) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.


VC-235 BOARD (3/16)
LENS MOTOR DRIVE (LD BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:PB MODE
LENS UNIT
CN1551 24P
FC_XA 24
FC_XB 23
FC_A 22
FC_B 21
DRIVE(+) 20
NC 19
HALL(-) 18
BIAS(-) 17
HALL(+) 16
BIAS(+) 15
DRIVE(-) 14
TEMP 13
TEMP 12
ZM_SENSE_VCC 11
ZM_SENSE_OUT 10
FC_SENSE_OUT 9
FC_SENSE_VCC 8
GND 7
ZM_XB 6
ZM_B 5
ZM_A 4
ZM_XA 3
GND 2
LENS_FILTER_ON_SW 1
IC1552
NJM324V(TE2)
HALL/IRIS DRIVE
IC1553
UPD16877MA-6A5-E2
FOCUS/ZOOM MOTOR DRIVE
Q1551
2SC4738F-Y/GR(TPL3)
IRIS METER DRIVE
Q1552
2SA1832F-Y/GR(TPL3)
FOCUS SENSOR SWITCH
Q1553
2SA1832F-Y/GR(TPL3)
ZOOM SENSOR SWITCH
Q1554
2SC4738F-Y/GR(TPL3)
AMP
D1551
MA111-(K8).S0
D1552
XX
D1553
XX
C1552 0.01u
C1554 4700p
C1556 10u 4V
R1560 10
R1561 1M
R1567 2200
C1562 0.22u
R1568 15k
R1565 470k
R1570 470k
R1572 1k
C1560 470p
R1571 1k
C1564 0.001u
L1553 10uH
C1567 XX
C1570 0.01u
C1571 10u 6.3V
C1572 0.1u
R1556 1k
R1554 XX
R1553 0
R1552 1k
C1559 0.1u
R1564 220k
R1562 2200
C1558 0.1u
R1563 10k
R1566 470k
R1576 10k
R1575 1k
R1573 330
C1566 0.01u
C1568 2200p
R1569 22k
C1565 0.47u
R1577 47k
R1574 22k
R1555 68k
R1557 68k
L1552 10uH
C1569 1u
R1559 4700
R1558 4700
L1551 10uH
C1561 0.01u
C1563 47u 6.3V
R1551 47k
C1551 XX
LENS_FILTER_ON_SW
HALL_AD
HALL_REF
HALL_OFFSET
HALL_GAIN
㉑ VC-235 BOARD (12/16)
㉒ VC-235 BOARD (14/16)
D_2.8V
A_4.75V
REG_GND
MT_GND
MT_5V
㉓ VC-235 BOARD (16/16)
ZM_RST_LED
IRIS_PWM
FC_RST_LED
FC_RST
ZM_RST
LENS_TEMP_AD
㉑ VC-235 BOARD (12/16)
IRIS_COM
ZM_RST
FC_RST
DIR1B
DIR1A
EN1
EN0
DIR0A
DIR0B
⑲ VC-235 BOARD (2/16)
05

VC-235 (VIDEO IN/OUT) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.


VC-235 BOARD (4/16)
VIDEO IN/OUT
(TAKO BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H
(24) VC-235 BOARD (5/16)
TAKO_CK
ALIGN_APC_ERROR
TAKO_C_OUT
TAKO_Y_OUT
(11) VC-235 BOARD (1/16)
TAKO_Y_OUT
(12) VC-235 BOARD (2/16)
KINUTA_Y_OUT
KINUTA_C_OUT
(25) VC-235 BOARD (10/16)
VIDEO_I/O
S_Y_I/O
S_C_I/O
(26) VC-235 BOARD (15/16)
IR_VIDEO
(27) VC-235 BOARD (11/16)
SDC_IN
XVIDEO_IN
(24) VC-235 BOARD (5/16)
ACC_CONT
AGC_CONT
(28) VC-235 BOARD (11/16)
XCS_TAKO
VSP_SO
XVSP_SCK
(29) VC-235 BOARD (7/16)
CAIN_Y_OUT
CAIN_C_OUT
(30) VC-235 BOARD (16/16)
A_4.75V
D_2.8V
REG_GND
LINE
Hi8/Std8
Q3701
2SC4738F-Y/GR(TPL3)
DC LEVEL
DETECTOR
R3704 100
R3702 4700
R3705 220k
R3701 4700
C3701 0.01u
Q3702 XX
Q3703 XX
Q3704 XX
Q3705 XX
R3706 XX
R3707 XX
R3708 XX
R3709 XX
R3710 XX
R3711 XX
C3702 XX
C3703 XX
R3712 39
R3714 39
R3716 39
R3713 33
R3715 33
R3717 33
S_C_I/O
S_Y_I/O
VIDEO_I/O
FB3701 0uH
L3701 10uH
L3702 XX
R3734 0
R3732 XX
R3731 XX
C3717 1u
C3713 1u
D3702 XX
D3701 XX
R3733 XX
R3723 XX
R3719 XX
R3718 XX
L3703 XX
C3725 XX
C3720 XX
C3721 XX
C3722 XX
X3701 XX
C3726 XX
C3727 XX
C3736 XX
R3721 22k
C3711 2.2u
C3709 0.033u
C3708 2.2u
C3704 0.22u
C3712 2.2u
C3707 1u
C3710 2.2u
C3705 0.33u
C3706 0.01u
R3722 1k
AGC_CONT
ACC_CONT
IC3701
AN2225FHQ-EB
VIDEO IN/OUT
INPUT_Y_OUT
VREF
INPUT_C_OUT
PLL_GND
BGT_OUT
APC_FIL
EXTAL
PLL_VCC
XTAL
MM_TC3
4FSC_OUT
MM_TC2
IR
MAIN_GND1
Y_IN1
MAIN_GND2
SYNC_SEP_TC
Y_IN2
CLAMP_TC1
Y_IN3
CLAMP_TC2
Y_IN4
Y_GCA_CONT
C_IN1
C_GCA_CONT
AGC_VOUT
C_IN2
MAIN_VCC
C_IN3
D_GND
C_IN4
D_VCC
SI
XSCK
XCS
C_GND
IR_V_OUT
V_VCC
DRV_V_OUT
V_INV
V_GND
Y_GND
DRV_Y_OUT
Y_INV
Y_VCC
C_VCC
DRV_C_OUT
SDC
(12) (13) (14) (15) (16) (17)
L3705 10uH
C3734 10u 6.3V
C3735 0.01u
IR_VIDEO
DR_V_OUT
C3732 220u 4V
R3727 1k
C3728 2.2u
R3730 1k
DR_Y_OUT
C3733 220u 4V
R3728 1k
C3729 2.2u
R3729 1k
C3730 0.01u
DR_C_OUT
R3726 10k
C3731 0.01u
R3724 1k
C3715 0.33u
C3718 0.01u
C3719 0.01u
C3723 0.01u
C3724 0.1u
C3714 6.3V 10u
C3716 0.01u
VSP_SO
XVSP_SCK
XCS_TAKO
IR_VIDEO
DR_C_OUT
DR_Y_OUT
DR_V_OUT
05

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	➡
PB	⇨	⇨	⇨

VC-235 (BASE BAND INPUT) SCHEMATIC DIAGRAM • **See page 4-11 for VC-235 printed wiring board.**

VC-235 BOARD (5/16)

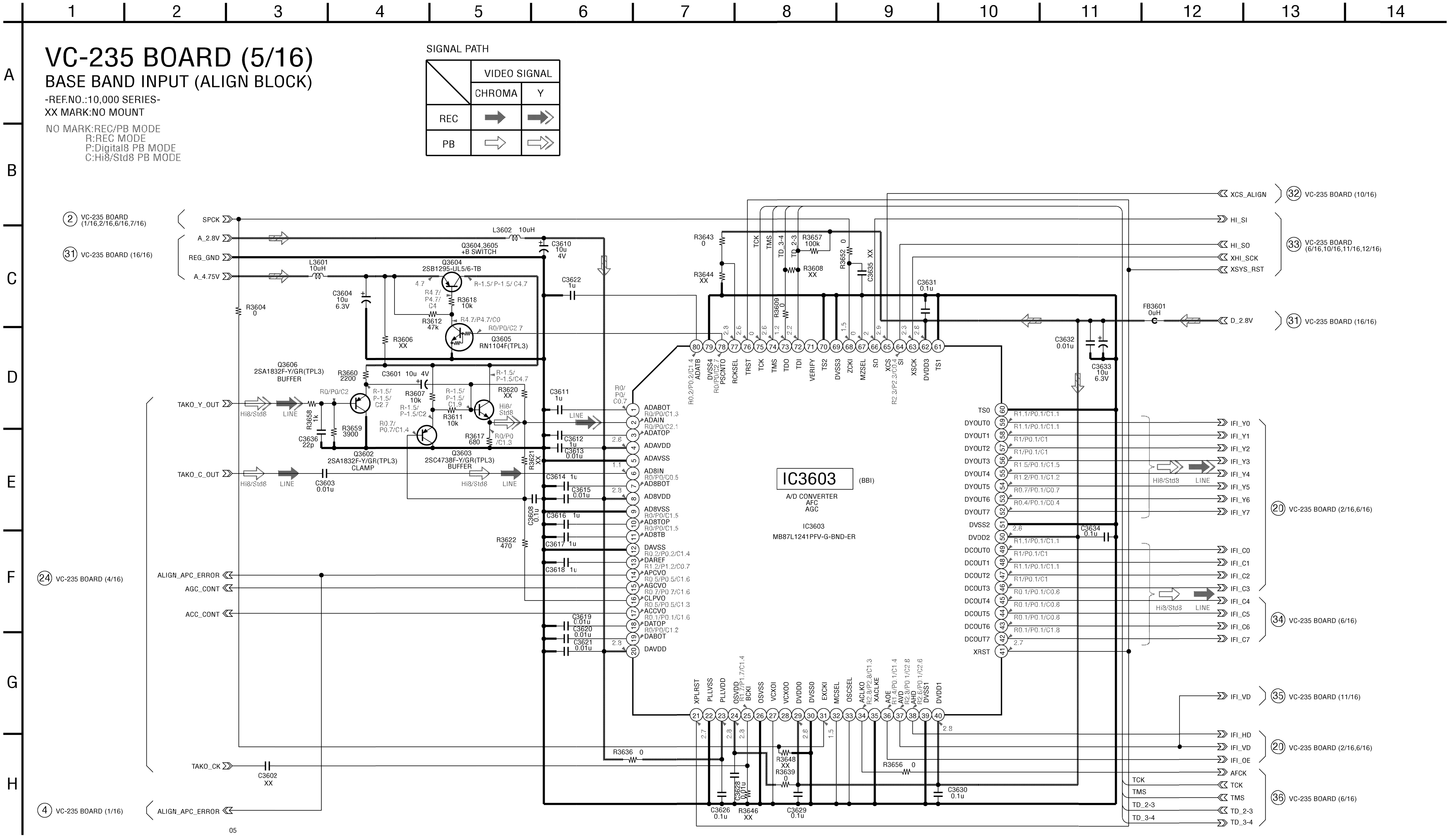
BASE BAND INPUT (ALIGN BLOCK)

-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT

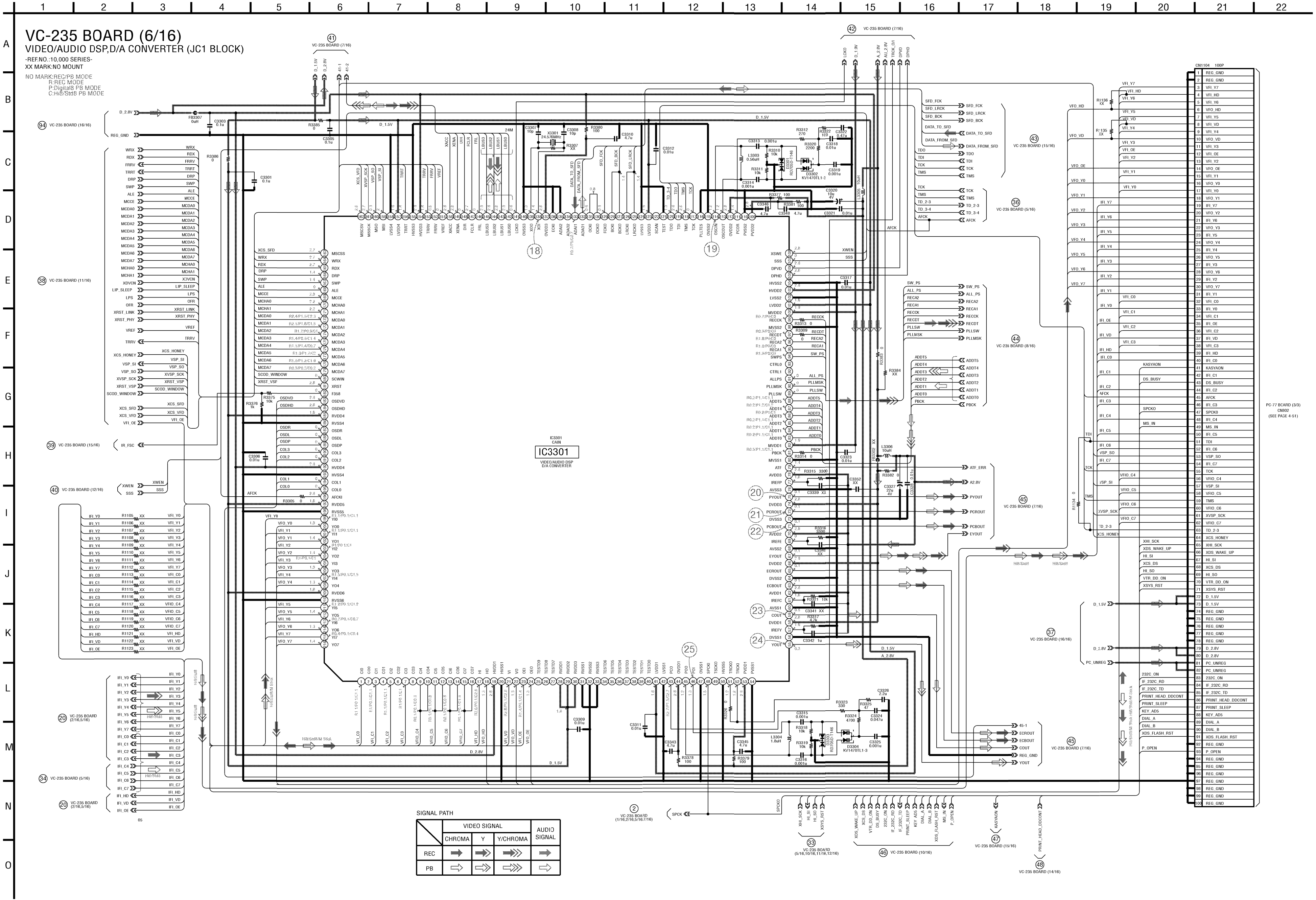
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE

SIGNAL PATH

	VIDEO SIGNAL	
	CHROMA	Y
REC	➡	➡➡
PB	⇨	⇨⇨


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H
IC3603 (BBI)
A/D CONVERTER
AFC
AGC
IC3603
MB87L1241PFV-G-BND-ER
② VC-235 BOARD (1/16,2/16,6/16,7/16)
SPCK
㉛ VC-235 BOARD (16/16)
A_2.8V
REG_GND
A_4.75V
TAKO_Y_OUT
TAKO_C_OUT
㉔ VC-235 BOARD (4/16)
ALIGN_APC_ERROR
AGC_CONT
ACC_CONT
TAKO_CK
④ VC-235 BOARD (1/16)
ALIGN_APC_ERROR
L3602 10uH
L3601 10uH
Q3604,3605 +B SWITCH
Q3604 2SB1295-UL5/6-TB
Q3605 RN1104F(TPL3)
Q3606 2SA1832F-Y/GR(TPL3) BUFFER
Q3602 2SA1832F-Y/GR(TPL3) CLAMP
Q3603 2SC4738F-Y/GR(TPL3) BUFFER
C3610 10u 4V
C3604 10u 6.3V
C3601 10u 4V
C3602 XX
C3603 0.01u
C3636 22p
R3604 0
R3606 XX
R3612 47k
R3618 10k
R3660 2200
R3658 1k
R3659 3900
R3607 10k
R3611 10k
R3617 680
R3620 XX
R3621 XX
R3622 470
Hi8/Std8
LINE
ADABOT ADAIN ADATOP ADAVDD ADAVSS AD8IN AD8BOT AD8VDD AD8VSS AD8TOP AD8TB DAVSS DAREF APCVO AGCVO CLPVO ACCVO DATOP DABOT DAVDD
ADATB DVSS4 PSCNTO RCKSEL TRST TCK TMS TDO TDI VERIFY TS2 DVSS3 ZCKI MZSEL SO XCS SI XSCK DVDD3 TS1
TS0 DYOUT0 DYOUT1 DYOUT2 DYOUT3 DYOUT4 DYOUT5 DYOUT6 DYOUT7 DVSS2 DVDD2 DCOUT0 DCOUT1 DCOUT2 DCOUT3 DCOUT4 DCOUT5 DCOUT6 DCOUT7 XRST
XPLRST PLLVSS PLLVDD OSVDD BCKI OSVSS VCXOI VCXOO DVDD0 DVSS0 EXCKI MCSEL OSCSEL ACLKO XACLKE AOE AVD AHD DVSS1 DVDD1
R3643 0
R3644 XX
R3657 100k
R3608 XX
R3652 0
C3635 XX
R3609 0
C3631 0.1u
FB3601 0uH
C3632 0.01u
C3633 10u 6.3V
C3634 0.1u
R3636 0
R3648 XX
R3639 0
R3656 0
C3626 0.1u
C3628 0.01u
R3646 XX
C3629 0.1u
C3630 0.1u
XCS_ALIGN
㉜ VC-235 BOARD (10/16)
HI_SI
HI_SO
XHI_SCK
XSYS_RST
㉝ VC-235 BOARD (6/16,10/16,11/16,12/16)
D_2.8V
㉛ VC-235 BOARD (16/16)
IFI_Y0 IFI_Y1 IFI_Y2 IFI_Y3 IFI_Y4 IFI_Y5 IFI_Y6 IFI_Y7
⑳ VC-235 BOARD (2/16,6/16)
IFI_C0 IFI_C1 IFI_C2 IFI_C3 IFI_C4 IFI_C5 IFI_C6 IFI_C7
㉞ VC-235 BOARD (6/16)
IFI_VD
㉟ VC-235 BOARD (11/16)
IFI_HD
IFI_VD
IFI_OE
⑳ VC-235 BOARD (2/16,6/16)
AFCK
TCK
TMS
TD_2-3
TD_3-4
㊱ VC-235 BOARD (6/16)
05

VC-235 (VIDEO/AUDIO DSP, D/A CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

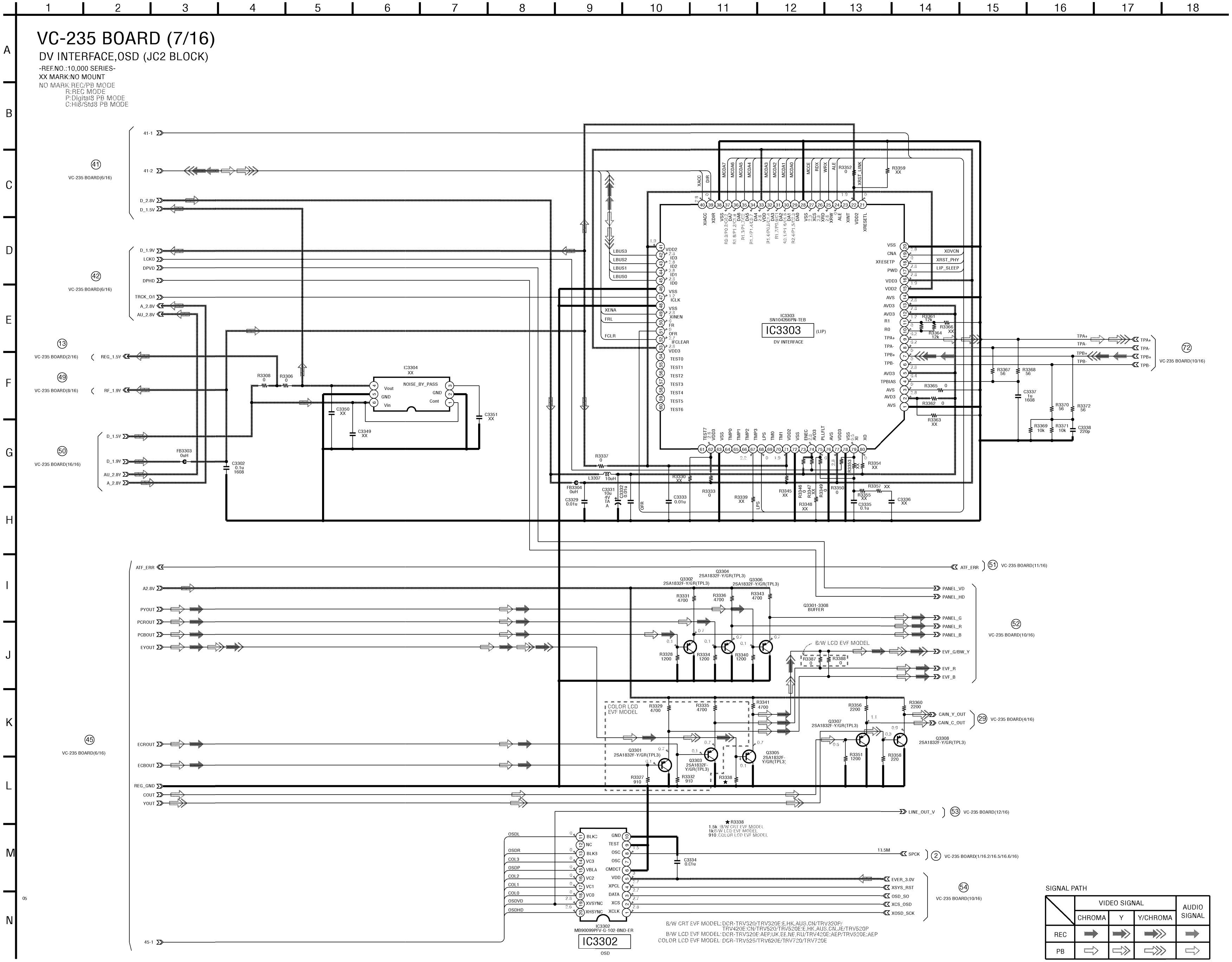

VC-235 BOARD (6/16)
VIDEO/AUDIO DSP,D/A CONVERTER (JC1 BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
IC3301
CAIN
VIDEO/AUDIO DSP
D/A CONVERTER
X3301
24.576MHz
CN1104 100P
PC-77 BOARD (3/3)
CN902
(SEE PAGE 4-51)
VC-235 BOARD (16/16)
VC-235 BOARD (11/16)
VC-235 BOARD (15/16)
VC-235 BOARD (12/16)
VC-235 BOARD (2/16,5/16)
VC-235 BOARD (5/16)
VC-235 BOARD (7/16)
VC-235 BOARD (8/16)
VC-235 BOARD (10/16)
VC-235 BOARD (14/16)
VC-235 BOARD (1/16,2/16,5/16,7/16)
VC-235 BOARD (5/16,10/16,11/16,12/16)
A B C D E F G H I J K L M N O
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡	➡	➡
PB	⇨	⇨	⇨	⇨

VIDEO/AUDIO DSP, D/A CONVERTER
VC-235 (6/16)

VC-235 (DV INTERFACE, OSD) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
A
B
C
D
E
F
G
H
I
J
K
L
M
N
41-1
41-2
D_2.8V
D_1.5V
(41)
VC-235 BOARD(6/16)
D_1.9V
LCKO
DPVD
DPHD
TRCK_O/I
A_2.8V
AU_2.8V
(42)
VC-235 BOARD(6/16)
(13)
VC-235 BOARD(2/16)
REG_1.5V
(49)
VC-235 BOARD(8/16)
RF_1.9V
(50)
VC-235 BOARD(16/16)
D_1.5V
D_1.9V
AU_2.8V
A_2.8V
FB3303
0uH
C3302
0.1u
1608
R3308
0
R3306
0
IC3304
XX
NOISE_BY_PASS
Vout
GND
Vin
GND
Cont
C3350
XX
C3349
XX
C3351
XX
IC3303
SN104266PN-TEB
IC3303
(LIP)
DV INTERFACE
XACC
DIR
MCDA7
MCDA6
MCDA5
MCDA4
MCDA3
MCDA2
MCDA1
MCDA0
MCCE
RDX
WRX
ALE
R3352
0
XRST_LINK
R3359
XX
LBUS3
LBUS2
LBUS1
LBUS0
XENA
FRL
FCLR
VDD2
ID3
ID2
ID1
ID0
VSS
ICLK
VSS
XINEN
FR
OFR
IFCLEAR
VDD3
TEST0
TEST1
TEST2
TEST3
TEST4
TEST5
TEST6
VSS
CNA
XFESETP
PWD
VDD3
VDD2
AVS
AVD3
AVD3
R1
R0
TPA+
TPA-
TPB+
TPB-
AVD3
TPBIAS
AVS
AVD3
AVS
XDVCN
XRST_PHY
LIP_SLEEP
R3361
12k
R3364
12k
R3366
XX
R3365
0
R3362
0
R3363
XX
R3367
56
R3368
56
C3337
1u
1608
R3370
56
R3372
56
R3369
10k
R3371
10k
C3338
220p
TPA+
TPA-
TPB+
TPB-
(72)
VC-235 BOARD(10/16)
TEST7
VDD3
VSS
TMP0
TMP1
TMP2
TMP3
LPS
TM0
TM1
VDD2
VSS
EXEC
AVD3
PLLFLT
AVS
VDD3
VSS
XI
XO
R3337
0
L3307
10uH
FB3304
0uH
C3329
0.01u
C3331
10u
4V
TA
A
C3332
0.01u
OFR
R3330
XX
C3333
0.01u
R3333
0
R3339
XX
LPS
R3345
XX
R3346
0
R3347
XX
R3348
XX
R3349
0
R3350
0
R3353
0
R3354
XX
R3357
XX
R3355
XX
C3335
0.1u
C3336
XX
ATF_ERR
A2.8V
PYOUT
PCROUT
PCBOUT
EYOUT
ATF_ERR
(51)
VC-235 BOARD(11/16)
Q3302
2SA1832F-Y/GR(TPL3)
Q3304
2SA1832F-Y/GR(TPL3)
Q3306
2SA1832F-Y/GR(TPL3)
R3331
4700
R3336
4700
R3343
4700
Q3301-3308
BUFFER
R3328
1200
R3334
1200
R3340
1200
B/W LCD EVF MODEL
R3387
0
R3388
0
PANEL_VD
PANEL_HD
PANEL_G
PANEL_R
PANEL_B
EVF_G/BW_Y
EVF_R
EVF_B
(52)
VC-235 BOARD(10/16)
(45)
VC-235 BOARD(6/16)
ECROUT
ECBOUT
REG_GND
COUT
YOUT
COLOR LCD
EVF MODEL
R3329
4700
R3335
4700
R3341
4700
R3356
2200
R3360
2200
CAIN_Y_OUT
CAIN_C_OUT
(29)
VC-235 BOARD(4/16)
Q3307
2SA1832F-Y/GR(TPL3)
Q3308
2SA1832F-Y/GR(TPL3)
Q3301
2SA1832F-Y/GR(TPL3)
Q3303
2SA1832F-
Y/GR(TPL3)
Q3305
2SA1832F-
Y/GR(TPL3)
R3327
910
R3332
910
R3338
★
R3351
1200
R3358
220
LINE_OUT_V
(53)
VC-235 BOARD(12/16)
OSDL
OSDR
COL3
OSDP
COL2
COL1
COL0
OSDVD
OSDHD
BLKC
NC
BLK3
VC3
VBLA
VC2
VC1
VC0
XVSYNC
XHSYNC
GND
TEST
OSC
OSC
CMDCT
VDD
XPCL
DATA
XCS
XCLK
IC3302
MB90099PFV-G-102-BND-ER
IC3302
OSD
C3334
0.01u
13.5M
SPCK
(2)
VC-235 BOARD(1/16.2/16.5/16.6/16)
EVER_3.0V
XSYS_RST
OSD_SO
XCS_OSD
XOSD_SCK
(54)
VC-235 BOARD(10/16)
45-1
05

VC-235 BOARD (7/16)

DV INTERFACE,OSD (JC2 BLOCK)

-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE

★R3338
1.5k :B/W CRT EVF MODEL
1k:B/W LCD EVF MODEL
910 :COLOR LCD EVF MODEL

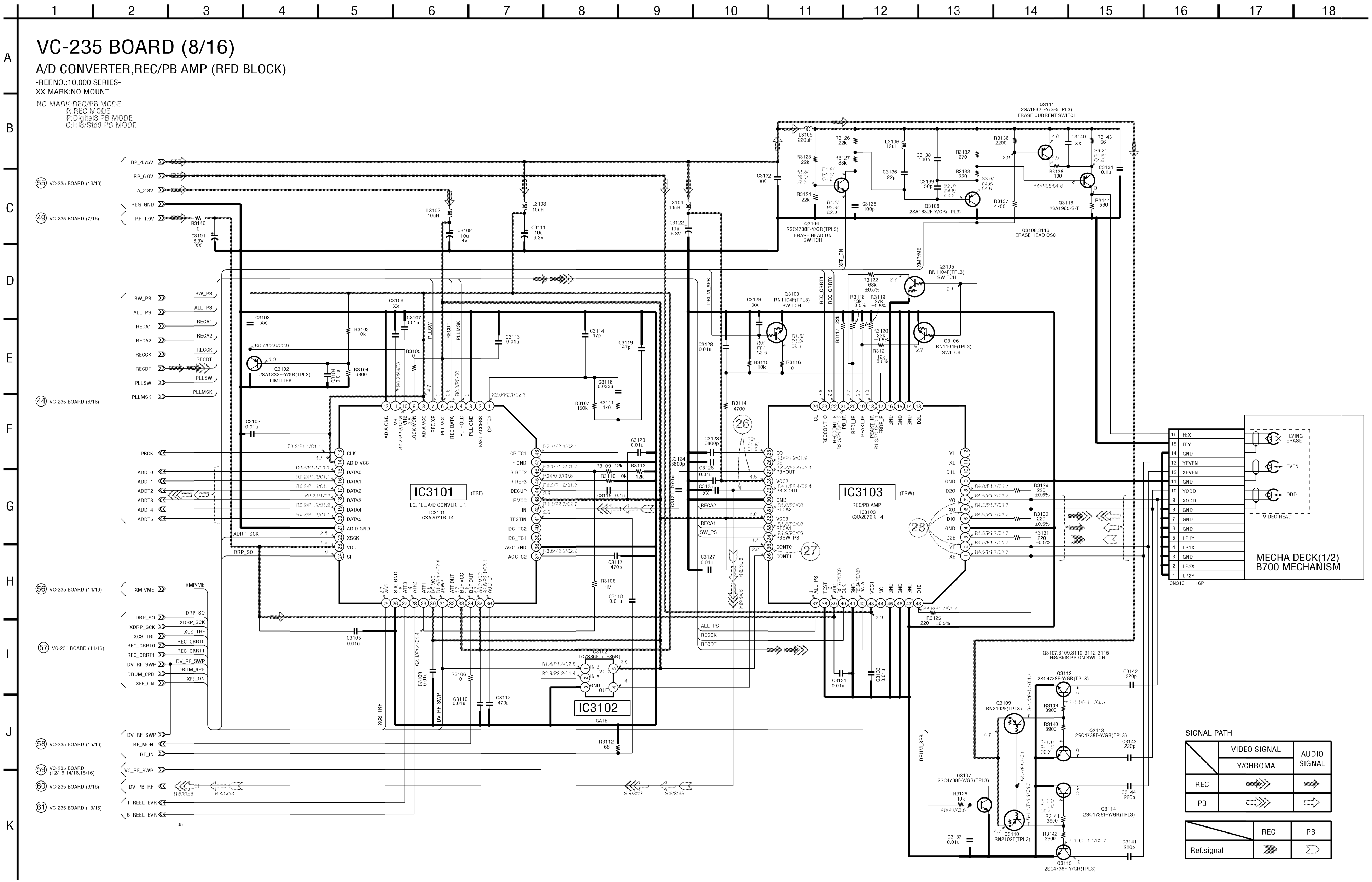
B/W CRT EVF MODEL: DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P/
TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P
B/W LCD EVF MODEL: DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP
COLOR LCD EVF MODEL: DCR-TRV525/TRV620E/TRV720/TRV720E

SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

DV INTERFACE, OSD
VC-235 (7/16)

VC-235 (A/D CONVERTER, REC/PB AMP) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.


VC-235 BOARD (8/16)
A/D CONVERTER,REC/PB AMP (RFD BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I J K
55 VC-235 BOARD (16/16)
49 VC-235 BOARD (7/16)
44 VC-235 BOARD (6/16)
56 VC-235 BOARD (14/16)
57 VC-235 BOARD (11/16)
58 VC-235 BOARD (15/16)
59 VC-235 BOARD (12/16,14/16,15/16)
60 VC-235 BOARD (9/16)
61 VC-235 BOARD (13/16)
RP_4.75V
RP_6.0V
A_2.8V
REG_GND
RF_1.9V
SW_PS
ALL_PS
RECA1
RECA2
RECCK
RECDT
PLLSW
PLLMSK
PBCK
ADDT0
ADDT1
ADDT2
ADDT3
ADDT4
ADDT5
XDRP_SCK
DRP_SO
XMP/ME
XCS_TRF
REC_CRRT0
REC_CRRT1
DV_RF_SWP
DRUM_8PB
XFE_ON
RF_MON
RF_IN
VC_RF_SWP
DV_PB_RF
T_REEL_EVR
S_REEL_EVR
IC3101
EQ,PLL,A/D CONVERTER
IC3101
CXA2071R-T4
IC3102
TC7S86FU(TE85R)
GATE
IC3103
REC/PB AMP
IC3103
CXA2072R-T4
Q3102
2SA1832F-Y/GR(TPL3)
LIMITTER
Q3103
RN1104F(TPL3)
SWITCH
Q3104
2SC4738F-Y/GR(TPL3)
ERASE HEAD ON SWITCH
Q3105
RN1104F(TPL3)
SWITCH
Q3106
RN1104F(TPL3)
SWITCH
Q3108
2SA1832F-Y/GR(TPL3)
Q3111
2SA1832F-Y/GR(TPL3)
ERASE CURRENT SWITCH
Q3116
2SA1965-S-TL
Q3108,3116
ERASE HEAD OSC
Q3107,3109,3110,3112-3115
Hi8/Std8 PB ON SWITCH
Q3107
2SC4738F-Y/GR(TPL3)
Q3109
RN2102F(TPL3)
Q3110
RN2102F(TPL3)
Q3112
2SC4738F-Y/GR(TPL3)
Q3113
2SC4738F-Y/GR(TPL3)
Q3114
2SC4738F-Y/GR(TPL3)
Q3115
2SC4738F-Y/GR(TPL3)
26
27
28
CN3101 16P
16 FEX
15 FEY
14 GND
13 YEVEN
12 XEVEN
11 GND
10 YODD
9 XODD
8 GND
7 GND
6 GND
5 LP1Y
4 LP1X
3 GND
2 LP2X
1 LP2Y
FLYING ERASE
EVEN
ODD
VIDEO HEAD
MECHA DECK(1/2)
B700 MECHANISM
Hi8/Std8
05

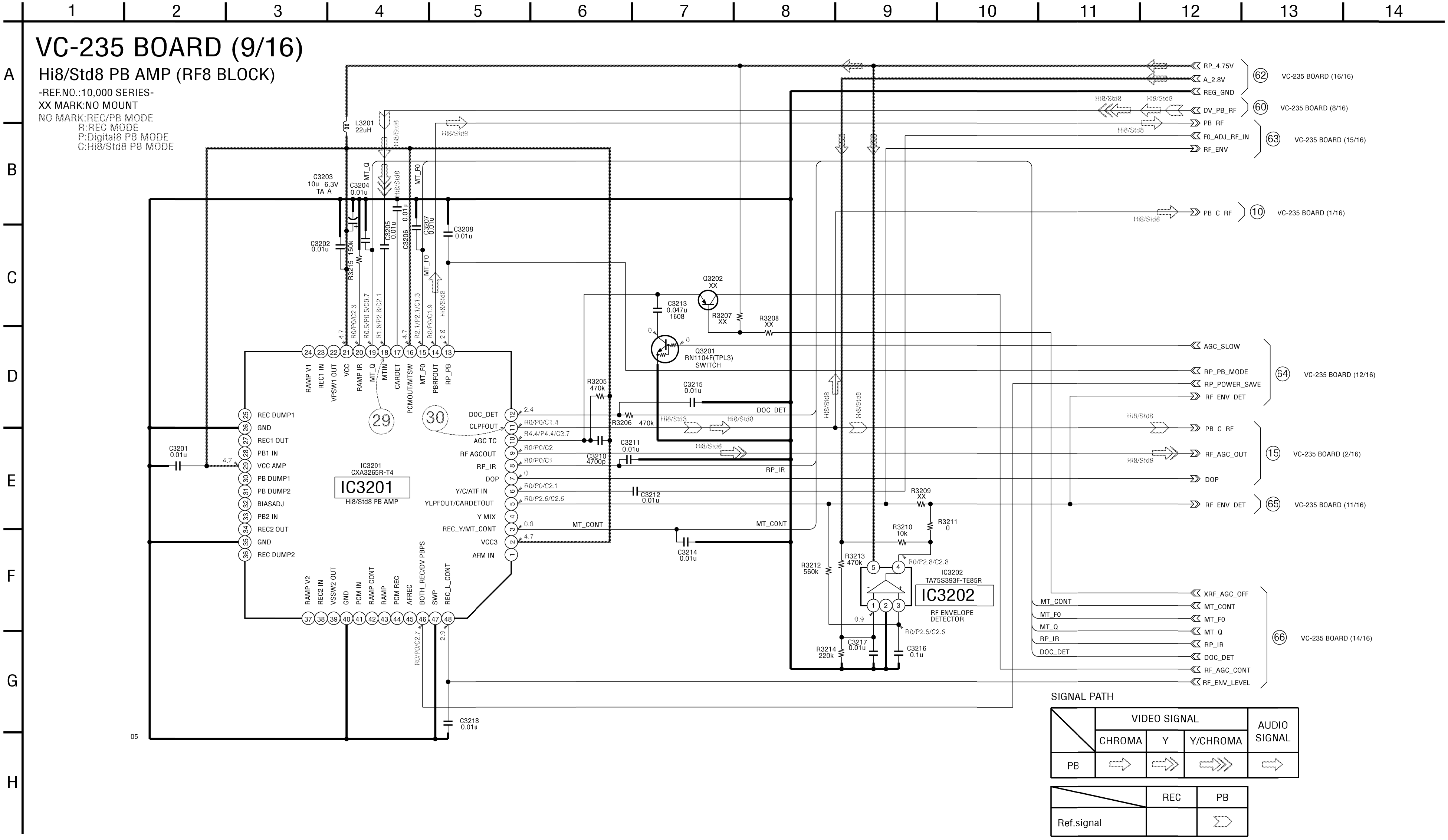
SIGNAL PATH

	VIDEO SIGNAL Y/CHROMA	AUDIO SIGNAL
REC	⇛	➡
PB	⇨	⇨

	REC	PB
Ref.signal	➡	▷

A/D CONVERTER, REC/PB AMP
VC-235 (8/16)

VC-235 (Hi8/Std8 PB AMP) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

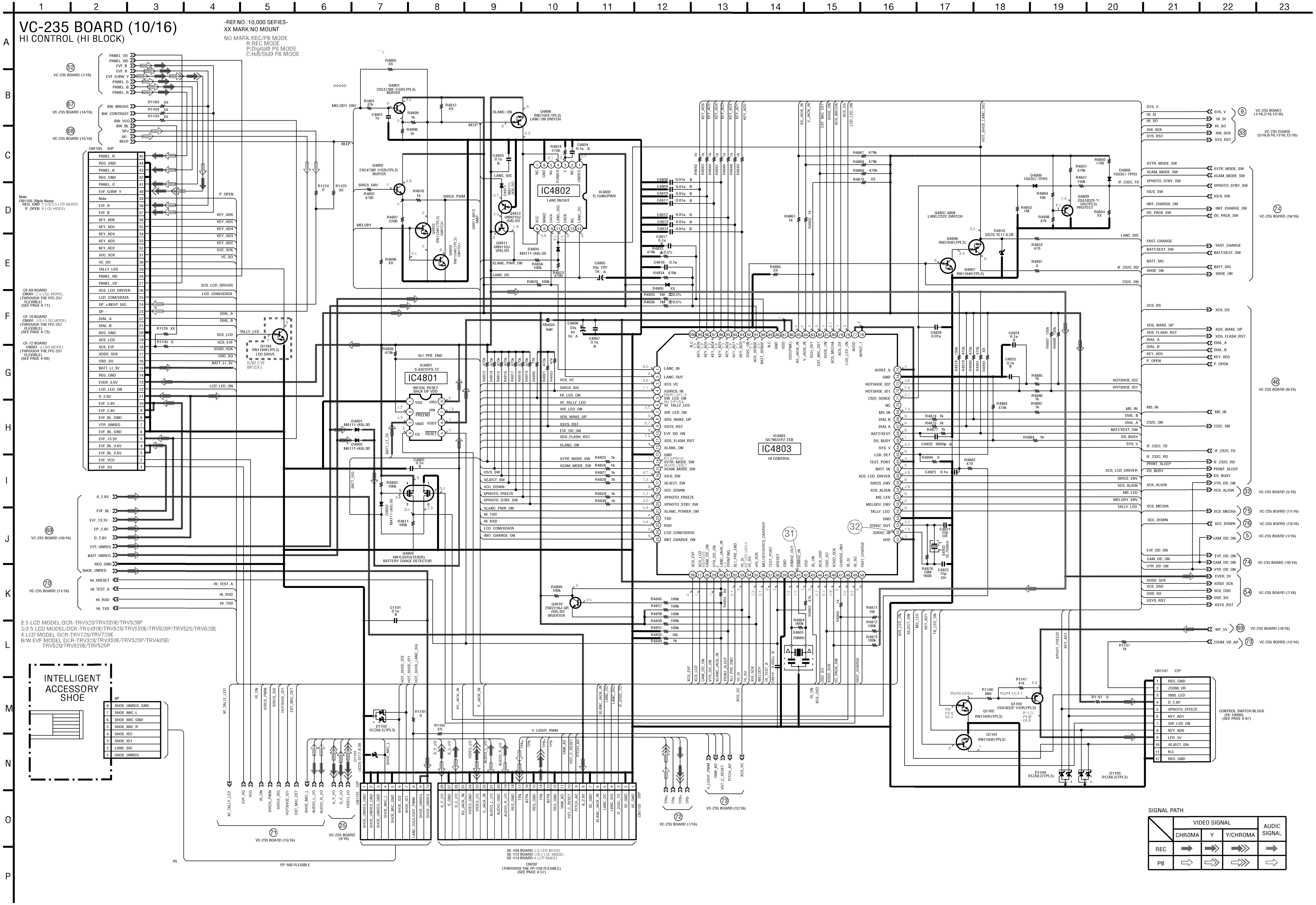

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
VC-235 BOARD (9/16)
Hi8/Std8 PB AMP (RF8 BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
L3201 22uH
C3203 10u 6.3V TA A
C3204 0.01u
C3202 0.01u
R3215 150k
C3205 0.01u
C3206 0.01u
C3207 0.01u
C3208 0.01u
MT_Q
MT_F0
Hi8/Std8
4.7
R0/P0/C2.3
R0.5/P0.5/C0.7
R1.8/P2.6/C2.1
R2.1/P2.1/C1.3
R0/P0/C1.9
2.8
RAMP V1
REC1 IN
VPSW1 OUT
VCC
RAMP IR
MT_Q
MTIN
CARDET
PCMOUT/MTSW
MT_F0
PBRFOUT
RP_PB
REC DUMP1
GND
REC1 OUT
PB1 IN
VCC AMP
PB DUMP1
PB DUMP2
BIASADJ
PB2 IN
REC2 OUT
GND
REC DUMP2
29
30
IC3201
CXA3265R-T4
IC3201
Hi8/Std8 PB AMP
DOC_DET
CLPFOUT
AGC TC
RF AGCOUT
RP_IR
DOP
Y/C/ATF IN
YLPFOUT/CARDETOUT
Y MIX
REC_Y/MT_CONT
VCC3
AFM IN
2.4
R0/P0/C1.4
R4.4/P4.4/C3.7
R0/P0/C2
R0/P0/C1
0
R0/P0/C2.1
R0/P2.6/C2.6
0.3
4.7
RAMP V2
REC2 IN
VSSW2 OUT
GND
PCM IN
RAMP CONT
RAMP
PCM REC
AFREC
BOTH_REC/DV PBPS
SWP
REC_L_CONT
R0/P0/C2.7
2.9
C3201 0.01u
C3218 0.01u
05
Q3202 XX
C3213 0.047u 1608
R3207 XX
R3208 XX
Q3201 RN1104F(TPL3) SWITCH
R3205 470k
R3206 470k
C3215 0.01u
C3211 0.01u
C3210 4700p
C3212 0.01u
C3214 0.01u
MT_CONT
DOC_DET
RP_IR
R3209 XX
R3210 10k
R3211 0
R3212 560k
R3213 470k
R0/P2.8/C2.8
IC3202 TA75S393F-TE85R
IC3202
RF ENVELOPE DETECTOR
0.9
R0/P2.5/C2.5
R3214 220k
C3217 0.01u
C3216 0.1u
RP_4.75V
A_2.8V
REG_GND
62
VC-235 BOARD (16/16)
DV_PB_RF
60
VC-235 BOARD (8/16)
PB_RF
F0_ADJ_RF_IN
RF_ENV
63
VC-235 BOARD (15/16)
PB_C_RF
10
VC-235 BOARD (1/16)
AGC_SLOW
RP_PB_MODE
RP_POWER_SAVE
RF_ENV_DET
64
VC-235 BOARD (12/16)
PB_C_RF
RF_AGC_OUT
DOP
15
VC-235 BOARD (2/16)
RF_ENV_DET
65
VC-235 BOARD (11/16)
XRF_AGC_OFF
MT_CONT
MT_F0
MT_Q
RP_IR
DOC_DET
RF_AGC_CONT
RF_ENV_LEVEL
66
VC-235 BOARD (14/16)

SIGNAL PATH

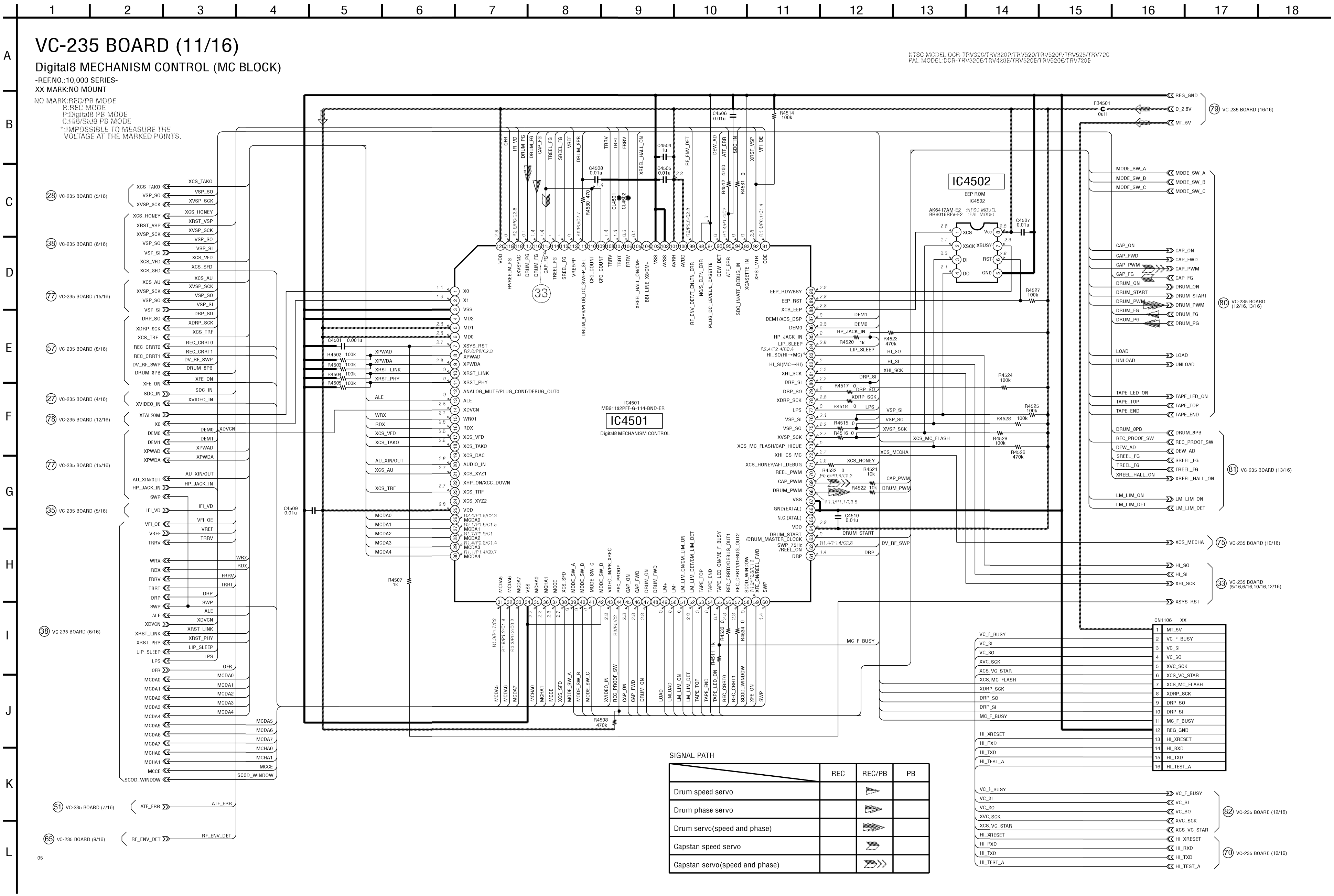
	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
PB	⇨	⇨	⇨	⇨

	REC	PB
Ref.signal		⇨

VC-235 (HI CONTROL) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.


VC-235 BOARD (10/16)
HI CONTROL (HI BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
IC4801 S-8423YFS-T2 INITIAL RESET BACK UP VDD
IC4802 TL1596CPWR LANC IN/OUT
IC4803 S579631P2-TEB HI CONTROL
Q4801 2SC4738F-Y,GR(TPL3) BUFFER
Q4802 2SC4738F-Y,GR(TPL3) BUFFER
Q4806 RN2102F(TPL3) LANC ON SWITCH
Q4807,4808 LANC/232C SWITCH
Q4809 2SA1832F-Y/GR(TPL3) PROTECT
Q4810 2SD2216J-QR (K8).SO INVERTER
Q1104 RN1104F(TPL3) LED DRIVE
Q1101 RN1104F(TPL3)
Q1102 RN1104F(TPL3)
Q1103 2SA1832F-Y/GR(TPL3)
D4804 HN1L02FU(TE85R) BATTERY CHAGE DETECTOR
X4801 20MHz
CN1105 45P
CN1107 12P
CN1100 15P
CN1103 28P
Note CN1105 39pin Name REG_GND :2.5/3.5 LCD MODEL P_OPEN :4 LCD MODEL
CF-69 BOARD CN001 :2.5 LCD MODEL (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-71)
CF-70 BOARD CN001 :3.5 LCD MODEL (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-73)
CF-72 BOARD CN001 :4 LCD MODEL (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-83)
2.5 LCD MODEL:DCR-TRV320/TRV320E/TRV320P
3/3.5 LCD MODEL:DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD MODEL:DCR-TRV720/TRV720E
B/W EVF MODEL:DCR-TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P
INTELLIGENT ACCESSORY SHOE
SE-104 BOARD:2.5 LCD MODEL
SE-112 BOARD:3/3.5 LCD MODEL
SE-114 BOARD:4 LCD MODEL
CN202 (THROUGH THE FP-159 FLEXIBLE) (SEE PAGE 4-57)
FP-160 FLEXIBLE
CONTROL SWITCH BLOCK (FK-10000) (SEE PAGE 4-87)
VC-235 BOARD (7/16)
VC-235 BOARD (14/16)
VC-235 BOARD (15/16)
VC-235 BOARD (16/16)
VC-235 BOARD (11/16)
VC-235 BOARD (1/16,2/16,12/16)
VC-235 BOARD (5/16,6/16,11/16,12/16)
VC-235 BOARD (6/16)
VC-235 BOARD (5/16)
VC-235 BOARD (13/16)
VC-235 BOARD (1/16)
VC-235 BOARD (4/16)
VC-235 BOARD (12/16)
SIGNAL PATH
VIDEO SIGNAL: CHROMA, Y, Y/CHROMA; AUDIO SIGNAL
REC
PB

VC-235 (Digital8 MECHANISM CONTROL) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-120 for waveforms.

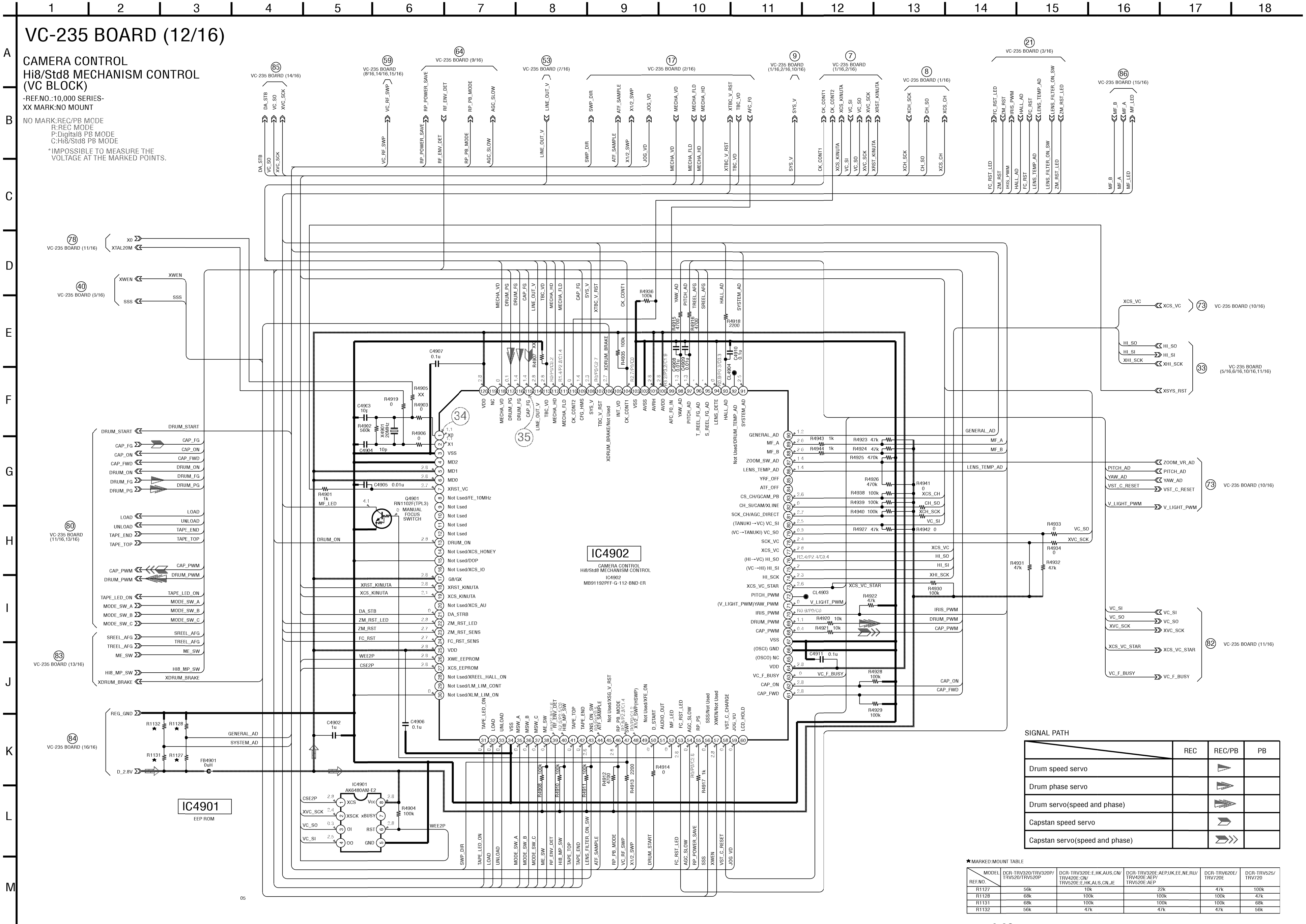

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I J K L
VC-235 BOARD (11/16)
Digital8 MECHANISM CONTROL (MC BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
*:IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.
NTSC MODEL DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
IC4501
MB91192PFF-G-114-BND-ER
Digital8 MECHANISM CONTROL
IC4502
EEP ROM
IC4502
AK6417AM-E2 :NTSC MODEL
BR9016RFV-E2 :PAL MODEL
XCS
XSCK
DI
DO
Vcc
XBUSY
RST
GND
33
FB4501
0uH
C4506 0.01u
R4514 100k
C4504 1u
C4505 0.01u
C4508 0.01u
R4530 470
CL4501
CL4502
R4512 4700
R4531 0
C4507 0.01u
R4527 100k
C4501 0.001u
R4502 100k
R4503 100k
R4504 100k
R4506 100k
C4509 0.01u
R4507 1k
R4508 470k
R4533 0
R4534 0
R4511 1k
R4523 470k
R4520 1k
R4517 0
R4518 0
R4515 0
R4516 0
R4532 0
R4521 10k
R4522 10k
C4510 0.01u
R4524 100k
R4525 100k
R4528 100k
R4529 100k
R4526 470k
CN1106 XX
1 MT_5V
2 VC_F_BUSY
3 VC_SI
4 VC_SO
5 XVC_SCK
6 XCS_VC_STAR
7 XCS_MC_FLASH
8 XDRP_SCK
9 DRP_SO
10 DRP_SI
11 MC_F_BUSY
12 REG_GND
13 HI_XRESET
14 HI_RXD
15 HI_TXD
16 HI_TEST_A
REG_GND
D_2.8V
MT_5V
(79) VC-235 BOARD (16/16)
(28) VC-235 BOARD (5/16)
XCS_TAKO VSP_SO XVSP_SCK
(38) VC-235 BOARD (6/16)
XCS_HONEY XRST_VSP XVSP_SCK VSP_SO VSP_SI XCS_VFD XCS_SFD
(77) VC-235 BOARD (15/16)
XCS_AU XVSP_SCK VSP_SO VSP_SI DRP_SO XDRP_SCK XCS_TRF
(57) VC-235 BOARD (8/16)
REC_CRRT0 REC_CRRT1 DV_RF_SWP DRUM_8PB XFE_ON
(27) VC-235 BOARD (4/16)
SDC_IN XVIDEO_IN
(78) VC-235 BOARD (12/16)
XTAL20M X0 DEMO DEM1 XPWAD XPWDA
(77) VC-235 BOARD (15/16)
AU_XIN/OUT HP_JACK_IN SWP
(35) VC-235 BOARD (5/16)
IFI_VD VFI_OE VREF TRRV
(38) VC-235 BOARD (6/16)
WRX RDX FRRV TRRT DRP SWP ALE XDVCN XRST_LINK XRST_PHY LIP_SLEEP LPS OFR MCDA0 MCDA1 MCDA2 MCDA3 MCDA4 MCDA5 MCDA6 MCDA7 MCHA0 MCHA1 MCCE SCOD_WINDOW
(51) VC-235 BOARD (7/16)
ATF_ERR
(65) VC-235 BOARD (9/16)
RF_ENV_DET
MODE_SW_A MODE_SW_B MODE_SW_C
CAP_ON CAP_FWD CAP_PWM CAP_FG DRUM_ON DRUM_START DRUM_PWM DRUM_FG DRUM_PG
(80) VC-235 BOARD (12/16,13/16)
LOAD UNLOAD
TAPE_LED_ON TAPE_TOP TAPE_END
DRUM_8PB REC_PROOF_SW DEW_AD SREEL_FG TREEL_FG XREEL_HALL_ON
(81) VC-235 BOARD (13/16)
LM_LIM_ON LM_LIM_DET
XCS_MECHA
(75) VC-235 BOARD (10/16)
HI_SO HI_SI XHI_SCK
(33) VC-235 BOARD (5/16,6/16,10/16,12/16)
XSYS_RST
VC_F_BUSY VC_SI VC_SO XVC_SCK XCS_VC_STAR HI_XRESET HI_RXD HI_TXD HI_TEST_A
(82) VC-235 BOARD (12/16)
(70) VC-235 BOARD (10/16)
X0 X1 VSS MD2 MD1 MD0 XSYS_RST XPWAD XPWDA XRST_LINK XRST_PHY ANALOG_MUTE/PLUG_CONF/DEBUG_OUT0 ALE XDVCN RDX WR01 XCS_VFD XCS_TAKO XCS_DAC AUDIO_IN XCS_XYZ1 XHP_ON/XCC_DOWN XCS_TRF XCS_XYZ2 VDD MCDA0 MCDA1 MCDA2 MCDA3 MCDA4
EEP_RDY/BSY EEP_RST XCS_EEP DEM1/XCS_DSP DEMO HP_JACK_IN LIP_SLEEP HI_SO(HI→MC) HI_SI(MC→HI) XHI_SCK DRP_SI DRP_SO XDRP_SCK LPS VSP_SI VSP_SO XVSP_SCK XCS_MC_FLASH/CAP_HICUE XHI_CS_MC XCS_HONEY/AFT_DEBUG REEL_PWM CAP_PWM DRUM_PWM VSS GND(EXTAL) N.C.(XTAL) VDD DRUM_START /DRUM_MASTER_CLOCK SWP_75Hz /REEL_ON DRP
MC_F_BUSY
DV_RF_SWP
SIGNAL PATH
05

SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷	
Drum servo(speed and phase)		▷	
Capstan speed servo		≫	
Capstan servo(speed and phase)		≫	

Digital8 MECHANISM CONTROL
VC-235 (11/16)

VC-235 (CAMERA CONTROL, Hi8/Std8 MECHANISM CONTROL) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-121 for waveforms.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
A B C D E F G H I J K L M
VC-235 BOARD (12/16)
CAMERA CONTROL
Hi8/Std8 MECHANISM CONTROL
(VC BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
*IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.
IC4902
CAMERA CONTROL
Hi8/Std8 MECHANISM CONTROL
IC4902
MB91192PFF-G-112-BND-ER
IC4901
EEP ROM
IC4901
AK6480AM-E2
Q4901
RN1102F(TPL3)
MANUAL FOCUS SWITCH
X4901
20MHz
VC-235 BOARD (14/16)
VC-235 BOARD (8/16,14/16,15/16)
VC-235 BOARD (9/16)
VC-235 BOARD (7/16)
VC-235 BOARD (2/16)
VC-235 BOARD (1/16,2/16,10/16)
VC-235 BOARD (1/16,2/16)
VC-235 BOARD (1/16)
VC-235 BOARD (3/16)
VC-235 BOARD (15/16)
VC-235 BOARD (11/16)
VC-235 BOARD (5/16)
VC-235 BOARD (11/16,13/16)
VC-235 BOARD (13/16)
VC-235 BOARD (16/16)
VC-235 BOARD (10/16)
VC-235 BOARD (5/16,6/16,10/16,11/16)
DRUM_START
CAP_FG
CAP_ON
CAP_FWD
DRUM_ON
DRUM_FG
DRUM_PG
LOAD
UNLOAD
TAPE_END
TAPE_TOP
CAP_PWM
DRUM_PWM
TAPE_LED_ON
MODE_SW_A
MODE_SW_B
MODE_SW_C
SREEL_AFG
TREEL_AFG
ME_SW
HI8_MP_SW
XDRUM_BRAKE
REG_GND
D_2.8V
GENERAL_AD
SYSTEM_AD
XWEN
SSS
X0
XTAL20M
XCS_VC
HI_SO
HI_SI
XHI_SCK
XSYS_RST
ZOOM_VR_AD
PITCH_AD
YAW_AD
VST_C_RESET
V_LIGHT_PWM
VC_SI
VC_SO
XVC_SCK
XCS_VC_STAR
VC_F_BUSY
MF_A
MF_B
LENS_TEMP_AD

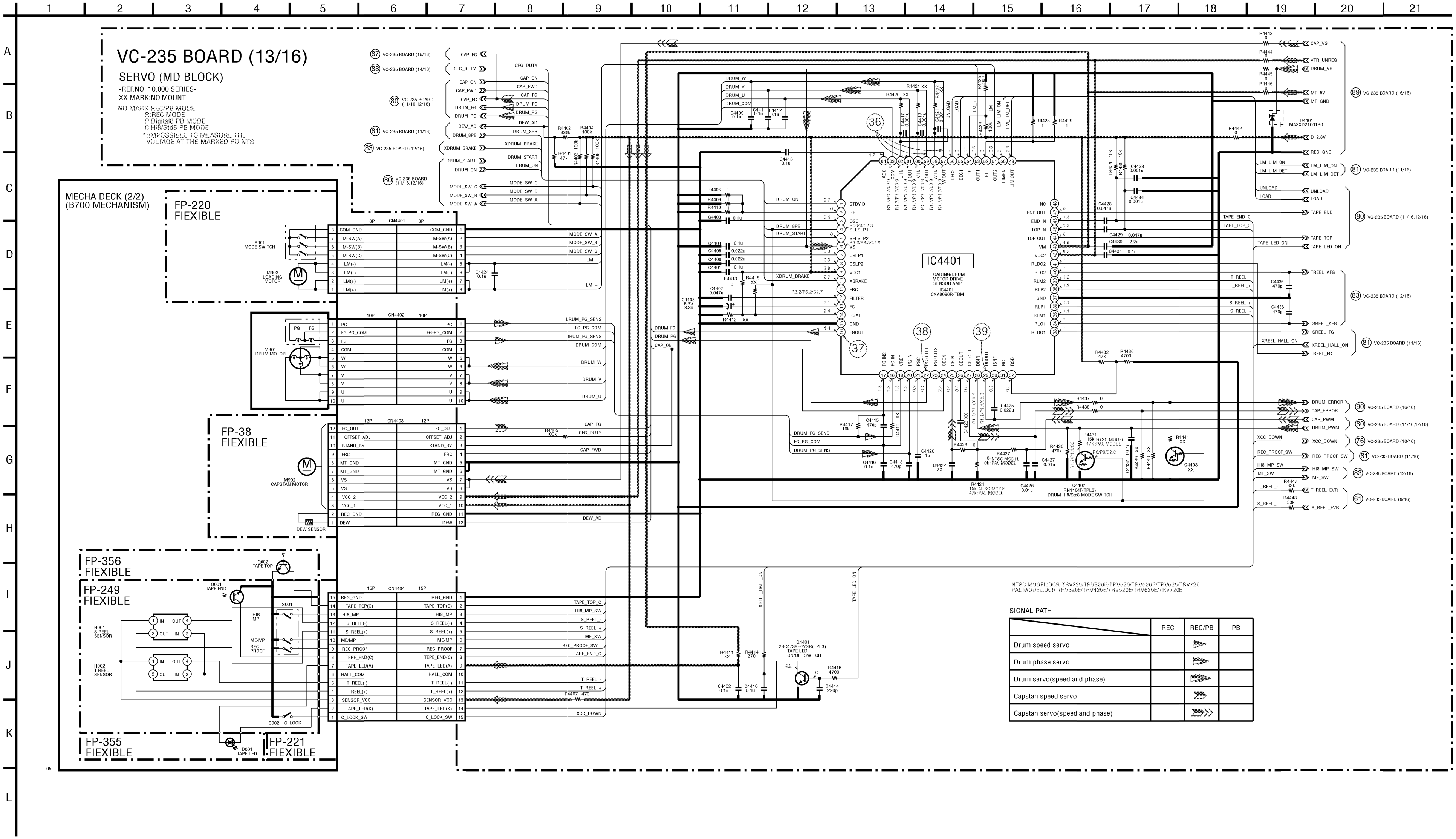
SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▶	
Drum servo(speed and phase)		⫸	
Capstan speed servo		➢	
Capstan servo(speed and phase)		➢》	

★MARKED:MOUNT TABLE

REF.NO. \ MODEL	DCR-TRV320/TRV320P/ TRV520/TRV520P	DCR-TRV320E:E,HK,AUS,CN/ TRV420E:CN/ TRV520E:E,HK,AUS,CN,JE	DCR-TRV320E:AEP,UK,EE,NE,RU/ TRV420E:AEP/ TRV520E:AEP	DCR-TRV620E/ TRV720E	DCR-TRV525/ TRV720
R1127	56k	10k	22k	47k	100k
R1128	68k	100k	100k	100k	47k
R1131	68k	100k	100k	100k	68k
R1132	56k	47k	47k	47k	56k

FP-38, FP-220, FP-221, FP-249, FP-355, FP-356 (MECHA DECK), VC-235 (SERVO) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-121 for waveforms.

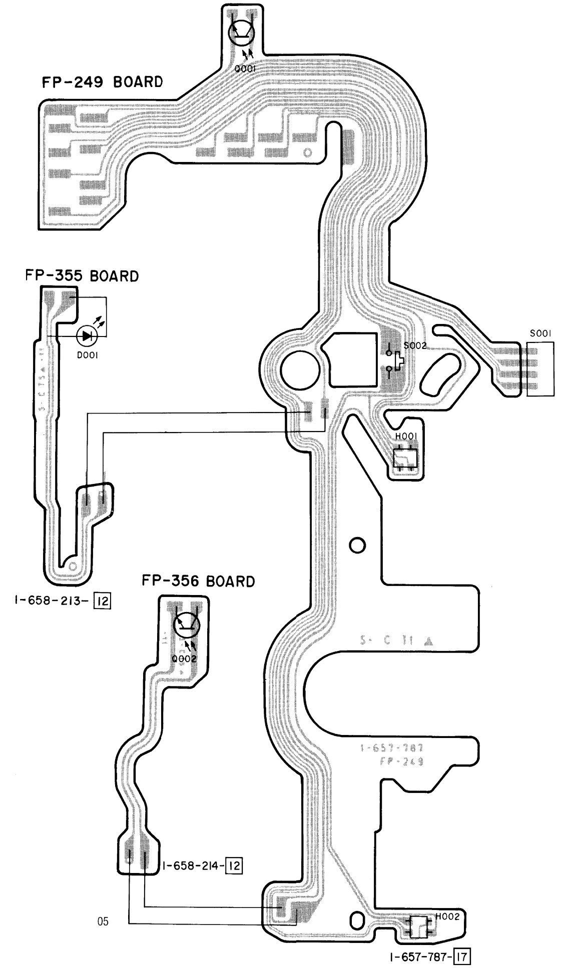

VC-235 BOARD (13/16)
SERVO (MD BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
* :IMPOSSIBLE TO MEASURE THE VOLTAGE AT THE MARKED POINTS.
MECHA DECK (2/2) (B700 MECHANISM)
FP-220 FIEXIBLE
FP-38 FIEXIBLE
FP-356 FIEXIBLE
FP-249 FIEXIBLE
FP-355 FIEXIBLE
FP-221 FIEXIBLE
S901 MODE SWITCH
M903 LOADING MOTOR
M901 DRUM MOTOR
M902 CAPSTAN MOTOR
DEW SENSOR
Q002 TAPE TOP
Q001 TAPE END
H001 S REEL SENSOR
H002 T REEL SENSOR
S001
S002 C LOCK
D001 TAPE LED
CN4401 8P
CN4402 10P
CN4403 12P
CN4404 15P
IC4401
LOADING/DRUM MOTOR DRIVE SENSOR AMP
IC4401 CXA8096R-TBM
Q4401 2SC4738F-Y/GR(TPL3) TAPE LED ON/OFF SWITCH
Q4402 RN1104F(TPL3) DRUM Hi8/Std8 MODE SWITCH
Q4403
D4401 MA3XD21001S0
VC-235 BOARD (15/16)
VC-235 BOARD (14/16)
VC-235 BOARD (11/16,12/16)
VC-235 BOARD (11/16)
VC-235 BOARD (12/16)
VC-235 BOARD (16/16)
VC-235 BOARD (10/16)
VC-235 BOARD (8/16)
CAP_FG
CFG_DUTY
CAP_ON
CAP_FWD
DRUM_FG
DRUM_PG
DEW_AD
DRUM_BPB
XDRUM_BRAKE
DRUM_START
DRUM_ON
MODE_SW_C
MODE_SW_B
MODE_SW_A
CAP_VS
VTR_UNREG
DRUM_VS
MT_5V
MT_GND
D_2.8V
REG_GND
LM_LIM_ON
LM_LIM_DET
UNLOAD
LOAD
TAPE_END
TAPE_TOP
TAPE_LED_ON
TREEL_AFG
SREEL_AFG
SREEL_FG
XREEL_HALL_ON
TREEL_FG
DRUM_ERROR
CAP_ERROR
CAP_PWM
DRUM_PWM
XCC_DOWN
REC_PROOF_SW
Hi8_MP_SW
ME_SW
T_REEL_EVR
S_REEL_EVR
NTSC MODEL:DCR-TRV320/TRV520/TRV520P/TRV525/TRV720
PAL MODEL:DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

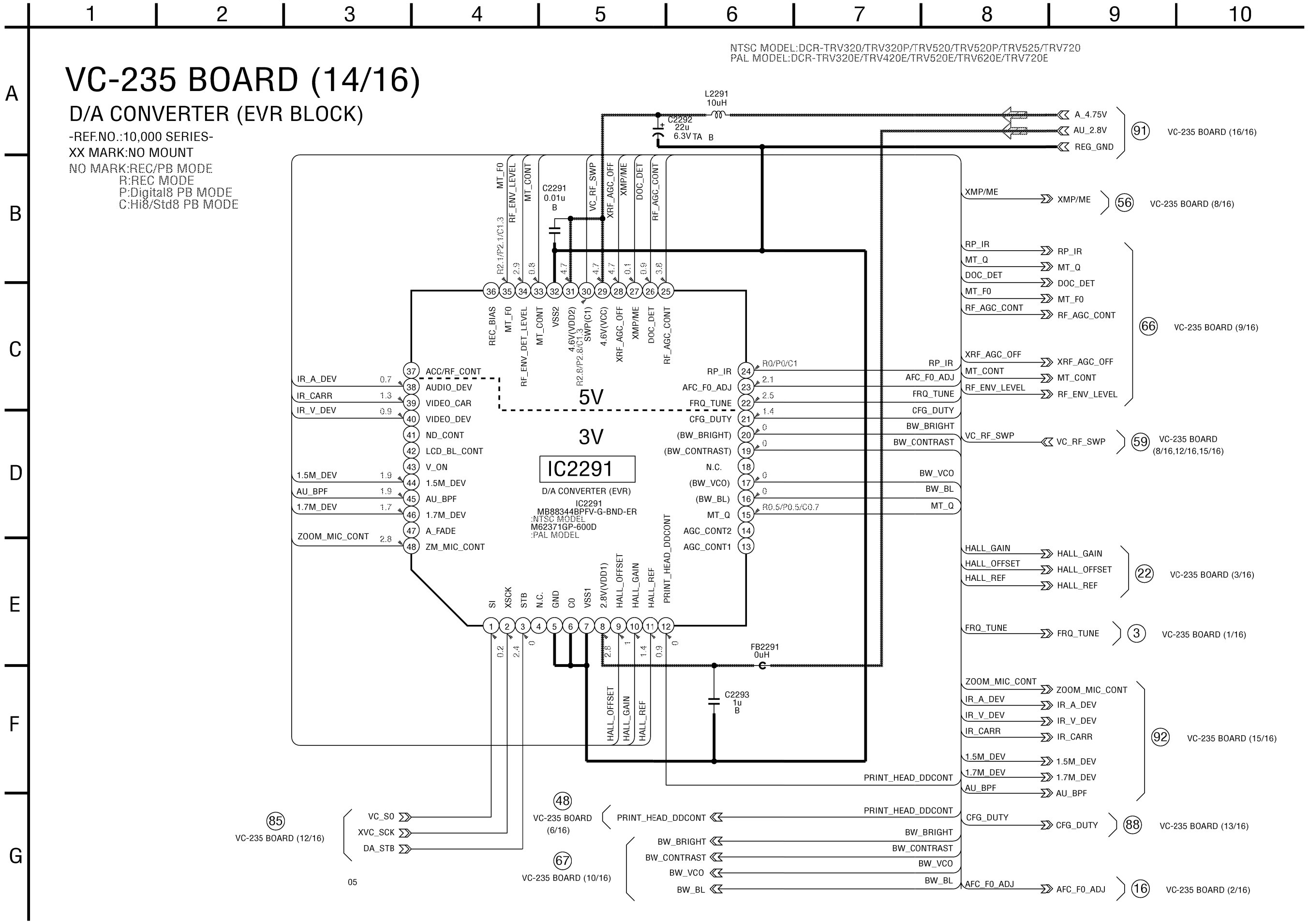
SIGNAL PATH

	REC	REC/PB	PB
Drum speed servo		▷	
Drum phase servo		▷	
Drum servo(speed and phase)		▷	
Capstan speed servo		▷	
Capstan servo(speed and phase)		▷	

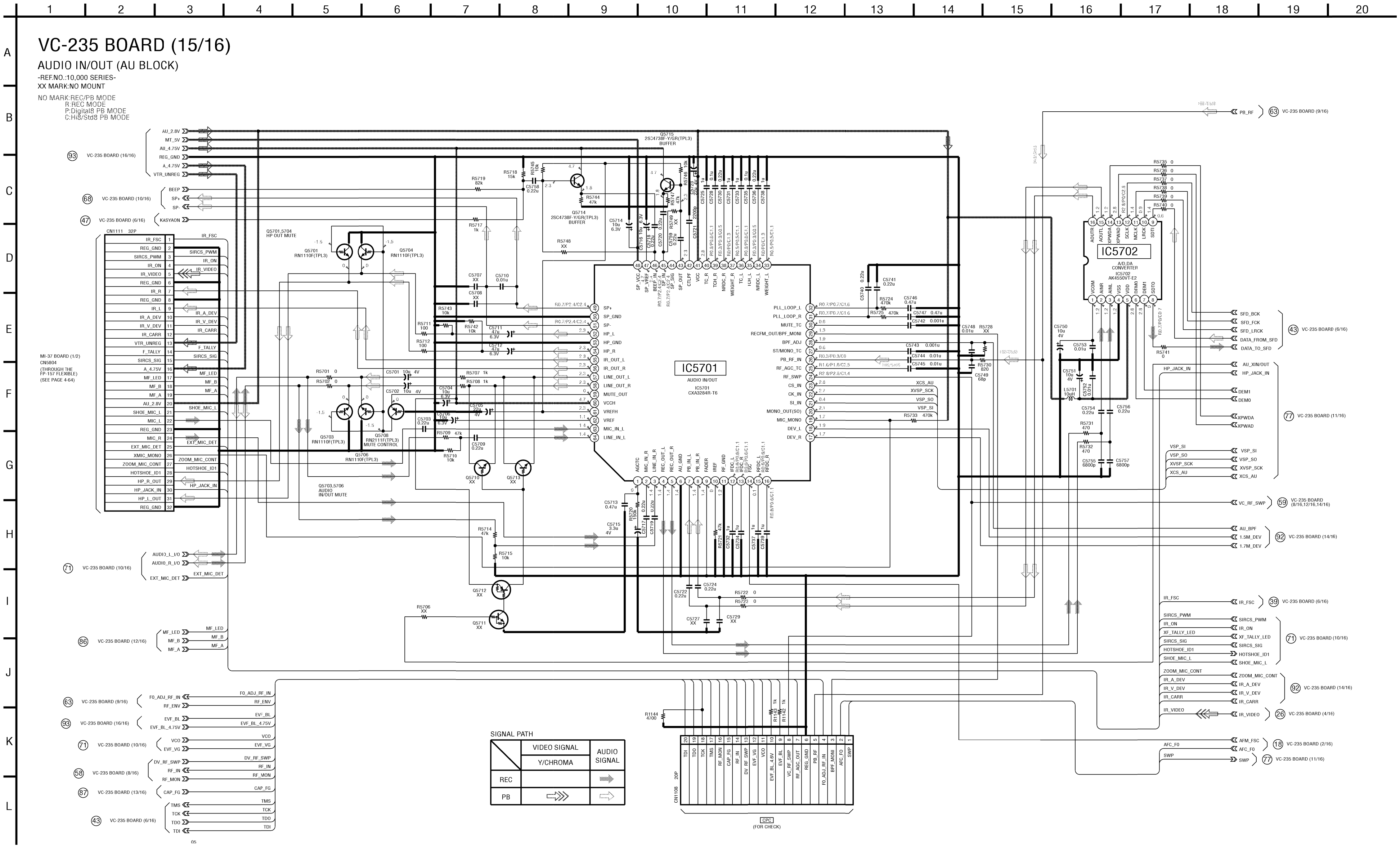
FP-249, FP-355, FP-356 (MECHA DECK) PRINTED WIRING BOARDS AND VC-235 (D/A CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.

– Ref. No.: FP-249, FP-355, FP-356 flexible board; 10,000 series –

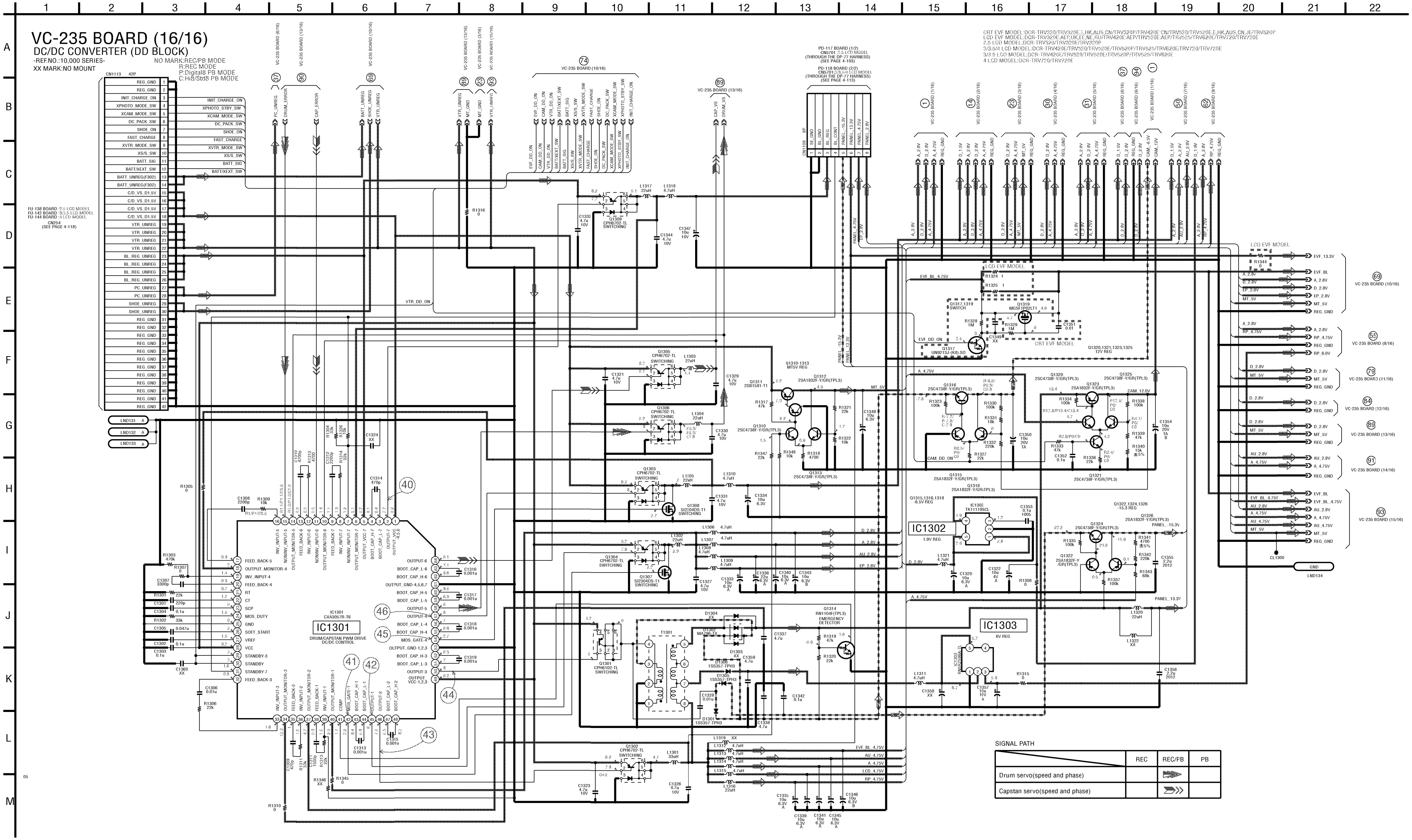

FP-249 BOARD
Q001
FP-355 BOARD
D001
S001
S002
H001
FP-356 BOARD
Q002
H002
1-658-213-12
1-658-214-12
1-657-787-17
05


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
VC-235 BOARD (14/16)
D/A CONVERTER (EVR BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
NTSC MODEL:DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL:DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
L2291
10uH
C2292
22u
6.3V TA
B
C2291
0.01u
B
A_4.75V
AU_2.8V
REG_GND
91
VC-235 BOARD (16/16)
XMP/ME
56
VC-235 BOARD (8/16)
RP_IR
MT_Q
DOC_DET
MT_F0
RF_AGC_CONT
XRF_AGC_OFF
MT_CONT
RF_ENV_LEVEL
66
VC-235 BOARD (9/16)
VC_RF_SWP
59
VC-235 BOARD
(8/16,12/16,15/16)
IC2291
D/A CONVERTER (EVR)
IC2291
MB88344BPFV-G-BND-ER
:NTSC MODEL
M62371GP-600D
:PAL MODEL
5V
3V
REC_BIAS
MT_F0
RF_ENV_DET_LEVEL
MT_CONT
VSS2
4.6V(VDD2)
SWP(C1)
4.6V(VCC)
XRF_AGC_OFF
XMP/ME
DOC_DET
RF_AGC_CONT
ACC/RF_CONT
AUDIO_DEV
VIDEO_CAR
VIDEO_DEV
ND_CONT
LCD_BL_CONT
V_ON
1.5M_DEV
AU_BPF
1.7M_DEV
A_FADE
ZM_MIC_CONT
RP_IR
AFC_F0_ADJ
FRQ_TUNE
CFG_DUTY
(BW_BRIGHT)
(BW_CONTRAST)
N.C.
(BW_VCO)
(BW_BL)
MT_Q
AGC_CONT2
AGC_CONT1
SI
XSCK
STB
N.C.
GND
C0
VSS1
2.8V(VDD1)
HALL_OFFSET
HALL_GAIN
HALL_REF
PRINT_HEAD_DDCONT
R2.1/P2.1/C1.3
R2.8/P2.8/C1.3
R0/P0/C1
R0.5/P0.5/C0.7
IR_A_DEV
IR_CARR
IR_V_DEV
ZOOM_MIC_CONT
BW_BRIGHT
BW_CONTRAST
BW_VCO
BW_BL
HALL_GAIN
HALL_OFFSET
HALL_REF
22
VC-235 BOARD (3/16)
FRQ_TUNE
3
VC-235 BOARD (1/16)
FB2291
0uH
C2293
1u
B
IR_A_DEV
IR_V_DEV
IR_CARR
1.5M_DEV
1.7M_DEV
AU_BPF
92
VC-235 BOARD (15/16)
CFG_DUTY
88
VC-235 BOARD (13/16)
AFC_F0_ADJ
16
VC-235 BOARD (2/16)
VC_S0
XVC_SCK
DA_STB
85
VC-235 BOARD (12/16)
48
VC-235 BOARD
(6/16)
PRINT_HEAD_DDCONT
67
VC-235 BOARD (10/16)
05

VC-235 (AUDIO IN/OUT) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board.


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
A B C D E F G H I J K L
VC-235 BOARD (15/16)
AUDIO IN/OUT (AU BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
IC5701
AUDIO IN/OUT
IC5701
CXA3284R-T6
IC5702
A/D, DA CONVERTER
IC5702
AK4550VT-E2
Q5715
2SC4738F-Y/GR(TPL3)
BUFFER
Q5714
2SC4738F-Y/GR(TPL3)
BUFFER
Q5701,5704
HP OUT MUTE
Q5701
RN1110F(TPL3)
Q5704
RN1110F(TPL3)
Q5703
RN1110F(TPL3)
Q5708
RN2111F(TPL3)
MUTE CONTROL
Q5706
RN1110F(TPL3)
Q5703,5706
AUDIO
IN/OUT MUTE
CN1111 32P
MI-37 BOARD (1/2)
CN5804
(THROUGH THE FP-157 FLEXIBLE)
(SEE PAGE 4-64)
CN1108 20P
CPC
(FOR CHECK)
VC-235 BOARD (16/16)
VC-235 BOARD (10/16)
VC-235 BOARD (6/16)
VC-235 BOARD (12/16)
VC-235 BOARD (9/16)
VC-235 BOARD (8/16)
VC-235 BOARD (13/16)
VC-235 BOARD (11/16)
VC-235 BOARD (8/16,12/16,14/16)
VC-235 BOARD (14/16)
VC-235 BOARD (4/16)
VC-235 BOARD (2/16)
PB_RF
SFD_BCK
SFD_FCK
SFD_LRCK
DATA_FROM_SFD
DATA_TO_SFD
AU_XIN/OUT
HP_JACK_IN
DEM1
DEM0
XPWDA
XPWAD
VSP_SI
VSP_SO
XVSP_SCK
XCS_AU
VC_RF_SWP
AU_BPF
1.5M_DEV
1.7M_DEV
IR_FSC
SIRCS_PWM
IR_ON
XF_TALLY_LED
SIRCS_SIG
HOTSHOE_ID1
SHOE_MIC_L
ZOOM_MIC_CONT
IR_A_DEV
IR_V_DEV
IR_CARR
IR_VIDEO
AFM_FSC
AFC_F0
SWP
AU_2.8V
MT_5V
AU_4.75V
REG_GND
A_4.75V
VTR_UNREG
BEEP
SP+
SP-
KASYAON
AUDIO_L_I/O
AUDIO_R_I/O
EXT_MIC_DET
MF_LED
MF_B
MF_A
F0_ADJ_RF_IN
RF_ENV
EVF_BL
EVF_BL_4.75V
VCO
EVF_VG
DV_RF_SWP
RF_IN
RF_MON
CAP_FG
TMS
TCK
TDO
TDI
SIGNAL PATH
VIDEO SIGNAL
Y/CHROMA
AUDIO SIGNAL
REC
PB

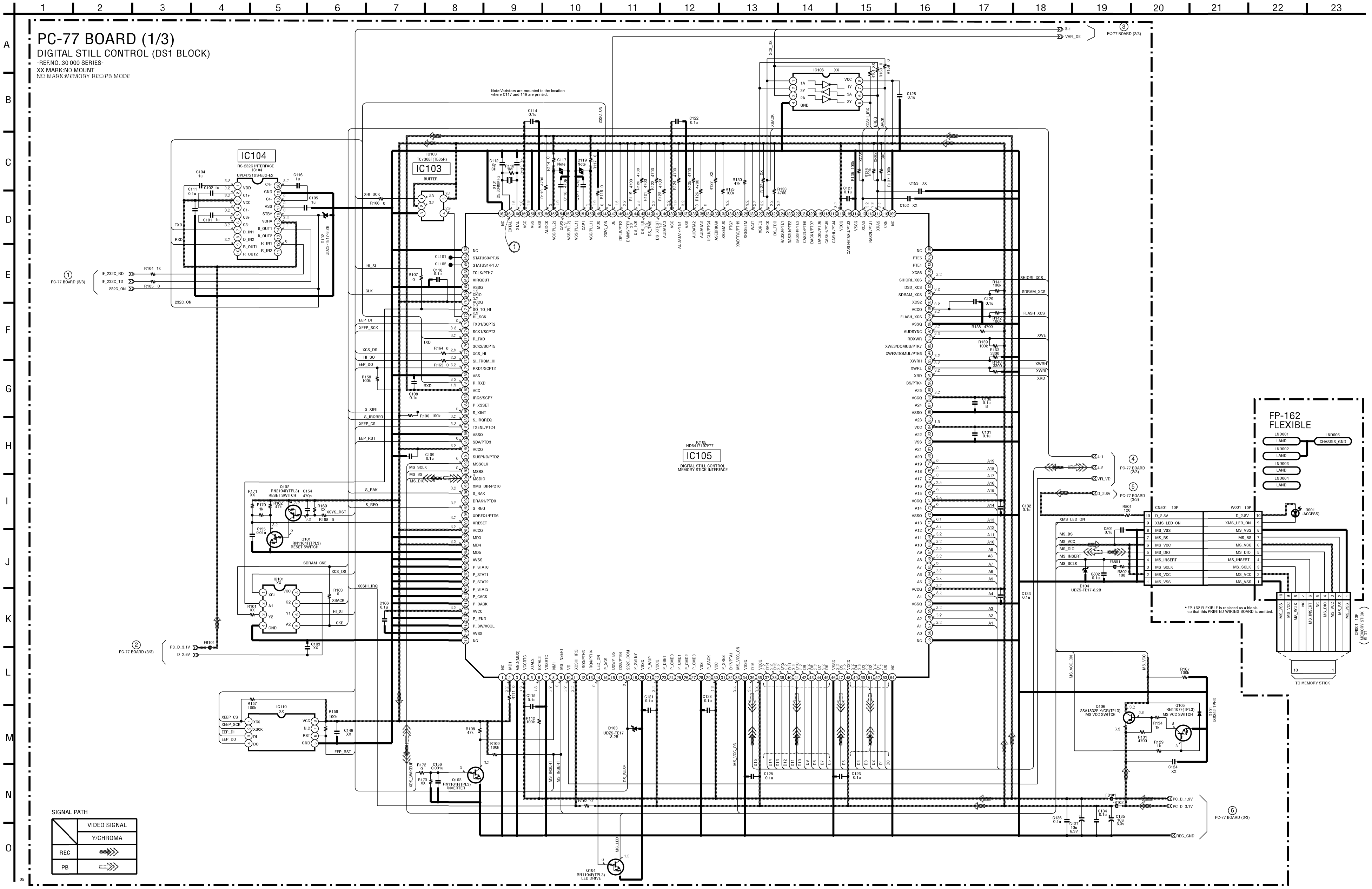
VC-235 (DC/DC CONVERTER) SCHEMATIC DIAGRAM • See page 4-11 for VC-235 printed wiring board. • See page 4-121 for waveforms.


VC-235 BOARD (16/16)
DC/DC CONVERTER (DD BLOCK)
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R:REC MODE
P:Digital8 PB MODE
C:Hi8/Std8 PB MODE
CN1113 42P
FU-138 BOARD :2.5 LCD MODEL
FU-142 BOARD :3/3.5 LCD MODEL
FU-144 BOARD :4 LCD MODEL
CN254
(SEE PAGE 4-118)
PD-117 BOARD (1/2)
PD-118 BOARD (2/2)
IC1301
CXA3057R-T16
DRUM/CAPSTAN PWM DRIVE
DC/DC CONTROL
IC1302
TK11119SCL
1.9V REG
IC1303
6V REG
Q1309 CPH6702-TL SWITCHING
Q1305 CPH6702-TL SWITCHING
Q1306 CPH6702-TL SWITCHING
Q1303 CPH6702-TL SWITCHING
Q1304 CPH6702-TL SWITCHING
Q1301 CPH6102-TL SWITCHING
Q1302 CPH6702-TL SWITCHING
Q1308 Si2304DS-T1 SWITCHING
Q1307 Si2304DS-T1 SWITCHING
Q1310-1313 MT5V REG
Q1314 RN1104F(TPL3) EMERGENCY DETECTOR
Q1317,1319 SWITCH
Q1320,1321,1323,1325 12V REG
Q1315,1316,1318 -6.5V REG
Q1322,1324,1326 -15.3 REG
T1301
LCD EVF MODEL
CRT EVF MODEL
LND131
LND132
LND133
LND134
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
A
B
C
D
E
F
G
H
I
J
K
L
M

SIGNAL PATH

	REC	REC/PB	PB
Drum servo(speed and phase)		⇒	
Capstan servo(speed and phase)		⇒	

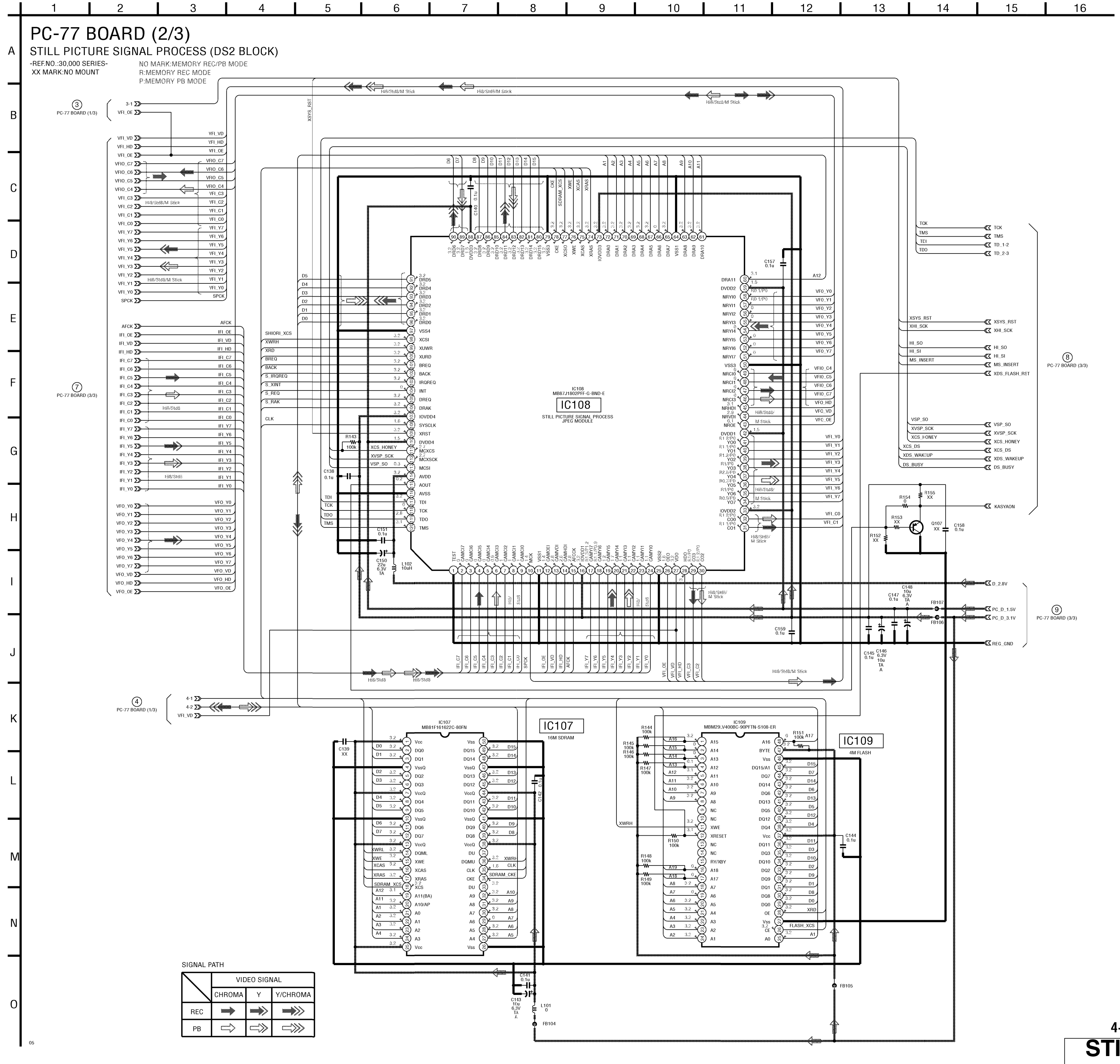
PC-77 (DIGITAL STILL CONTROL), FP-162 (MEMORY STICK BLOCK) SCHEMATIC DIAGRAM • See page 4-53 for PC-77 printed wiring board. • See page 4-121 for waveform.


PC-77 BOARD (1/3)
DIGITAL STILL CONTROL (DS1 BLOCK)
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:MEMORY REC/PB MODE
IC104
RS-232C INTERFACE
UPD4721GS-GJG-E2
IC103
TC7S08F(TE85R)
BUFFER
IC105
HD6417197F77
DIGITAL STILL CONTROL
MEMORY STICK INTERFACE
IC106
IC101
IC110
Q102
RN2104F(TPL3)
RESET SWITCH
Q101
RN1104F(TPL3)
RESET SWITCH
Q103
RN1104F(TPL3)
INVERTER
Q104
RN1104F(TPL3)
LED DRIVE
Q106
2SA1832F-Y/GR(TPL3)
MS VCC SWITCH
Q105
RN1107F(TPL3)
MS VCC SWITCH
D102
UDZS-TE17-8.2B
D103
UDZS-TE17-8.2B
D104
UDZS-TE17-8.2B
X101
Note:Varistors are mounted to the location where C117 and 119 are printed.
PC-77 BOARD (3/3)
PC-77 BOARD (2/3)
FP-162
FLEXIBLE
CN801 10P
W001 10P
D001
(ACCESS)
CHASSIS_GND
CN001 10P
MEMORY STICK SLOT
TO MEMORY STICK
• FP-162 FLEXIBLE is replaced as a block, so that this PRINTED WIRING BOARD is omitted.
SIGNAL PATH
VIDEO SIGNAL
Y/CHROMA
REC
PB

DIGITAL STILL CONTROL/MEMORY STICK BLOCK

PC-77 (1/3) / FP-162

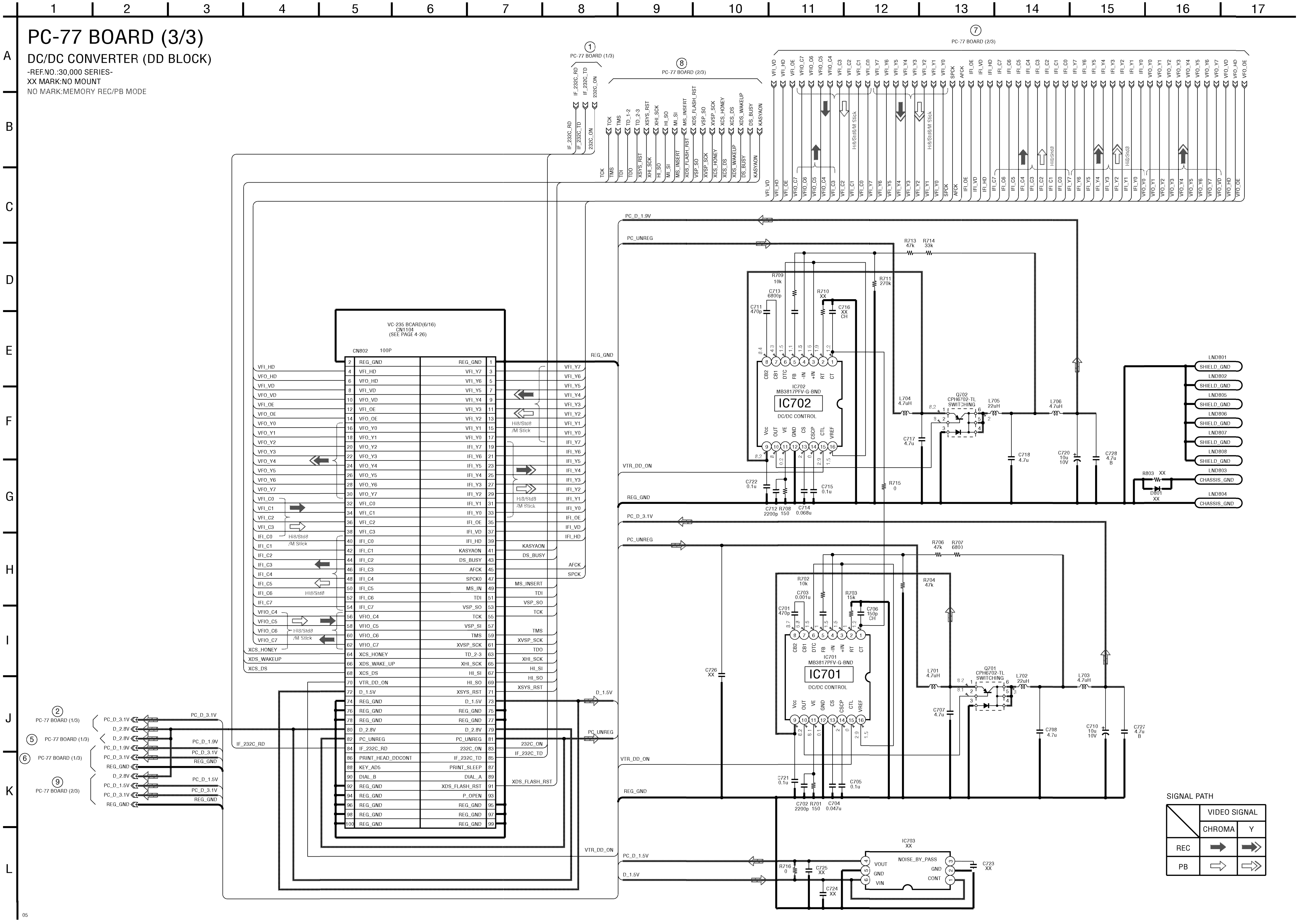
PC-77 (STILL PICTURE SIGNAL PROCESS) SCHEMATIC DIAGRAM • See page 4-53 for PC-77 printed wiring board.


PC-77 BOARD (2/3)
STILL PICTURE SIGNAL PROCESS (DS2 BLOCK)
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:MEMORY REC/PB MODE
R:MEMORY REC MODE
P:MEMORY PB MODE
③ PC-77 BOARD (1/3)
⑦ PC-77 BOARD (3/3)
④ PC-77 BOARD (1/3)
⑧ PC-77 BOARD (3/3)
⑨ PC-77 BOARD (3/3)
IC108
MB87J1802PFF-G-BND-E
STILL PICTURE SIGNAL PROCESS
JPEG MODULE
IC107
MB81F161622C-80FN
16M SDRAM
IC109
MBM29LV400BC-90PFTN-S108-ER
4M FLASH
Hi8/Std8/M Stick
Hi8/Std8
Q107
FB104
FB105
FB106
FB107
D_2.8V
PC_D_1.5V
PC_D_3.1V
REG_GND
KASYAON
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
A B C D E F G H I J K L M N O
05

SIGNAL PATH

	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC	➡	➡	➡
PB	⇨	⇨	⇨

PC-77 (DC/DC CONVERTER) SCHEMATIC DIAGRAM

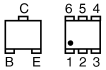

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
A B C D E F G H I J K L
PC-77 BOARD (3/3)
DC/DC CONVERTER (DD BLOCK)
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:MEMORY REC/PB MODE
① PC-77 BOARD (1/3)
⑧ PC-77 BOARD (2/3)
⑦ PC-77 BOARD (2/3)
② PC-77 BOARD (1/3)
⑤ PC-77 BOARD (1/3)
⑥ PC-77 BOARD (1/3)
⑨ PC-77 BOARD (2/3)
IF_232C_RD
IF_232C_TD
232C_ON
TCK
TMS
TDI
TDO
TD_1-2
TD_2-3
XSYS_RST
XHI_SCK
HI_SO
HI_SI
MS_INSERT
XDS_FLASH_RST
VSP_SO
XVSP_SCK
XCS_HONEY
XCS_DS
XDS_WAKEUP
DS_BUSY
KASYAON
VFI_VD
VFI_HD
VFI_OE
VFIO_C7
VFIO_C6
VFIO_C5
VFIO_C4
VFI_C3
VFI_C2
VFI_C1
VFI_C0
VFI_Y7
VFI_Y6
VFI_Y5
VFI_Y4
VFI_Y3
VFI_Y2
VFI_Y1
VFI_Y0
SPCK
AFCK
IFI_OE
IFI_VD
IFI_HD
IFI_C7
IFI_C6
IFI_C5
IFI_C4
IFI_C3
IFI_C2
IFI_C1
IFI_C0
IFI_Y7
IFI_Y6
IFI_Y5
IFI_Y4
IFI_Y3
IFI_Y2
IFI_Y1
IFI_Y0
VFO_Y0
VFO_Y1
VFO_Y2
VFO_Y3
VFO_Y4
VFO_Y5
VFO_Y6
VFO_Y7
VFO_VD
VFO_HD
VFO_OE
Hi8/Std8/M Stick
Hi8/Std8
VC-235 BOARD(6/16)
CN1104
(SEE PAGE 4-26)
CN802 100P
2 REG_GND REG_GND 1
4 VFI_HD VFI_Y7 3
6 VFO_HD VFI_Y6 5
8 VFI_VD VFI_Y5 7
10 VFO_VD VFI_Y4 9
12 VFI_OE VFI_Y3 11
14 VFO_OE VFI_Y2 13
16 VFO_Y0 VFI_Y1 15
18 VFO_Y1 VFI_Y0 17
20 VFO_Y2 IFI_Y7 19
22 VFO_Y3 IFI_Y6 21
24 VFO_Y4 IFI_Y5 23
26 VFO_Y5 IFI_Y4 25
28 VFO_Y6 IFI_Y3 27
30 VFO_Y7 IFI_Y2 29
32 VFI_C0 IFI_Y1 31
34 VFI_C1 IFI_Y0 33
36 VFI_C2 IFI_OE 35
38 VFI_C3 IFI_VD 37
40 IFI_C0 IFI_HD 39
42 IFI_C1 KASYAON 41
44 IFI_C2 DS_BUSY 43
46 IFI_C3 AFCK 45
48 IFI_C4 SPCK0 47
50 IFI_C5 MS_IN 49
52 IFI_C6 TDI 51
54 IFI_C7 VSP_SO 53
56 VFIO_C4 TCK 55
58 VFIO_C5 VSP_SI 57
60 VFIO_C6 TMS 59
62 VFIO_C7 XVSP_SCK 61
64 XCS_HONEY TD_2-3 63
66 XDS_WAKE_UP XHI_SCK 65
68 XCS_DS HI_SI 67
70 VTR_DD_ON HI_SO 69
72 D_1.5V XSYS_RST 71
74 REG_GND D_1.5V 73
76 REG_GND REG_GND 75
78 REG_GND REG_GND 77
80 D_2.8V D_2.8V 79
82 PC_UNREG PC_UNREG 81
84 IF_232C_RD 232C_ON 83
86 PRINT_HEAD_DDCONT IF_232C_TD 85
88 KEY_AD5 PRINT_SLEEP 87
90 DIAL_B DIAL_A 89
92 REG_GND XDS_FLASH_RST 91
94 REG_GND P_OPEN 93
96 REG_GND REG_GND 95
98 REG_GND REG_GND 97
100 REG_GND REG_GND 99
XCS_HONEY
XDS_WAKEUP
XCS_DS
PC_D_3.1V
D_2.8V
PC_D_1.9V
REG_GND
PC_D_1.5V
D_1.5V
PC_UNREG
VTR_DD_ON
REG_GND
PC_D_1.9V
PC_UNREG
R713 47k
R714 33k
R709 10k
C713 6800p
R710 XX
C716 XX CH
R711 270k
C711 470p
8 CB2
7 CB1
6 DTC
5 FB
4 -IN
3 +IN
2 RT
1 CT
IC702
MB3817PFV-G-BND
IC702
DC/DC CONTROL
9 Vcc
10 OUT
11 VE
12 GND
13 CS
14 CSCP
15 CTL
16 VREF
L704 4.7uH
Q702
CPH6702-TL
SWITCHING
L705 22uH
L706 4.7uH
C717 4.7u
C718 4.7u
C720 10u 10V
C728 4.7u B
C722 0.1u
C712 2200p
R708 150
C714 0.068u
C715 0.1u
R715 0
LND801 SHIELD_GND
LND802 SHIELD_GND
LND805 SHIELD_GND
LND806 SHIELD_GND
LND807 SHIELD_GND
LND808 SHIELD_GND
LND803 CHASSIS_GND
LND804 CHASSIS_GND
R803 XX
D801 XX
PC_D_3.1V
PC_UNREG
R706 47k
R707 6801
R702 10k
C703 0.001u
R703 15k
C701 470p
C706 150p CH
R704 47k
IC701
MB3817PFV-G-BND
IC701
DC/DC CONTROL
L701 4.7uH
Q701
CPH6702-TL
SWITCHING
L702 22uH
L703 4.7uH
C726 XX
C707 4.7u
C708 4.7u
C710 10u 10V
C727 4.7u B
C721 0.1u
C702 2200p
R701 150
C704 0.047u
C705 0.1u
IC703 XX
NOISE_BY_PASS
VOUT
GND
VIN
CONT
R716 0
C725 XX
C724 XX
C723 XX
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
REC
PB
05

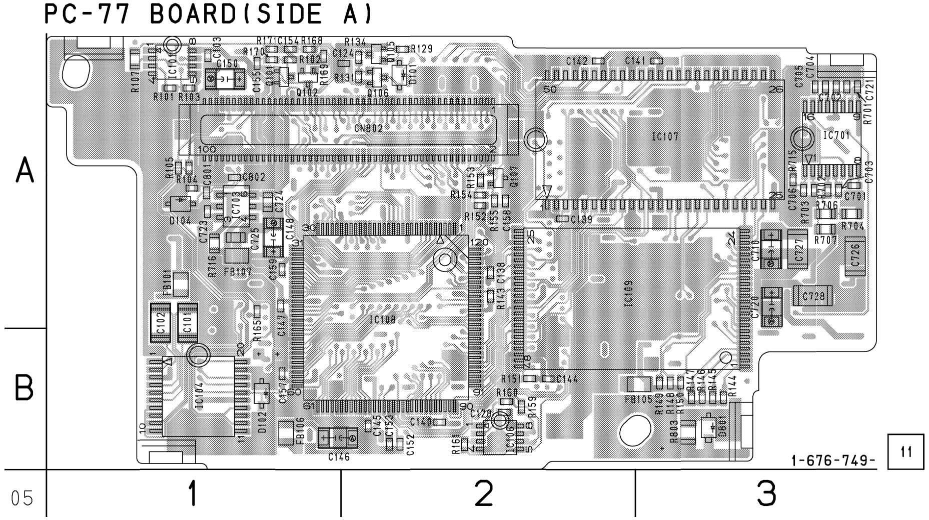
DC/DC CONVERTER
PC-77 (3/3)

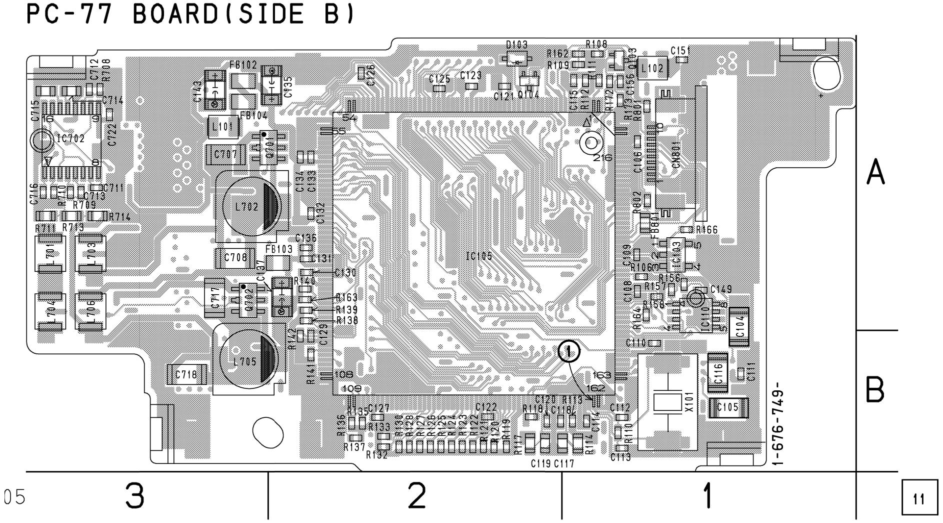
PC-77 (DIGITAL STILL CONTROL, STILL PICTURE SIGNAL PROCESS) PRINTED WIRING BOARD

– Ref. No.: PC-77 board; 30,000 series –

- **For Printed Wiring Board.**
- PC-77 board is six-layer print board. However, the patterns of layers 2 to 5 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-125 for printed parts location.
- Chip transistor




PC-77 BOARD(SIDE A)
A
B
05
1
2
3
11
1-676-749-
CN802
IC107
IC108
IC109
IC104
IC701
IC106
C150
Q102
Q106
D101
D102
D104
D801
FB101
FB105
FB106
FB107
C101
C102
C146
C728
C726
C727
C720
C710

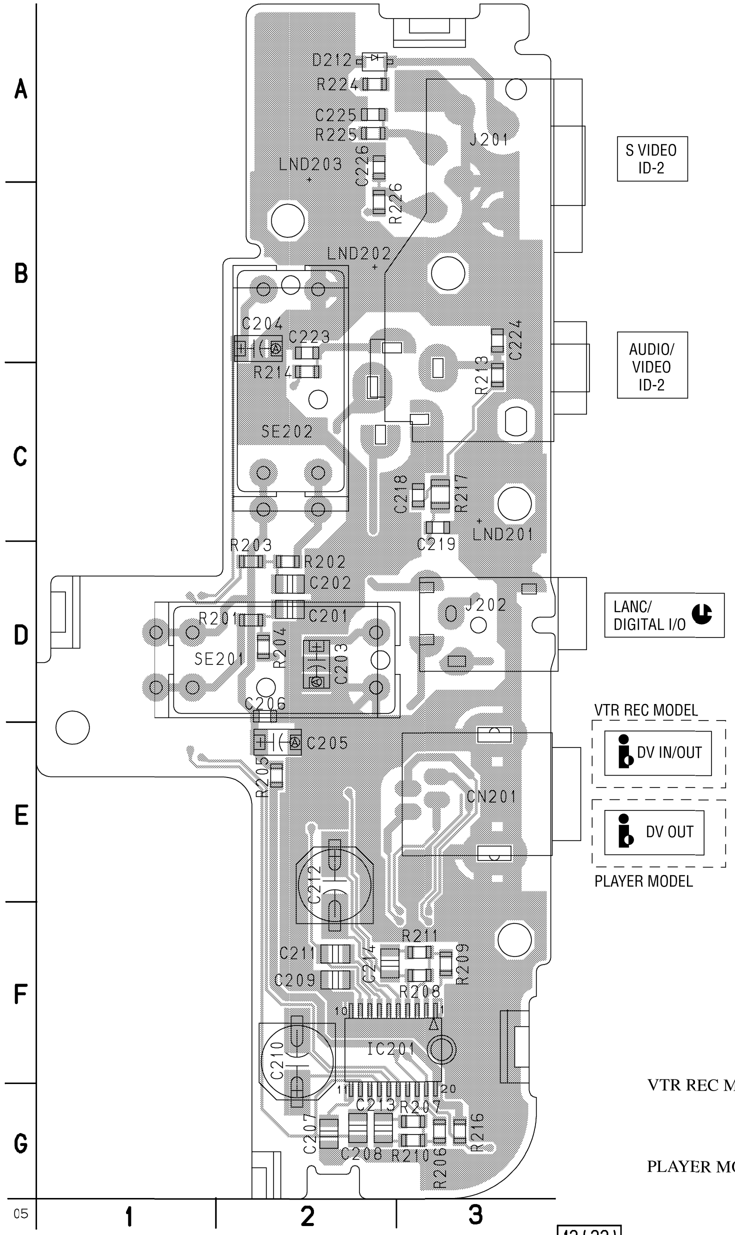

PC-77 BOARD(SIDE B)
A
B
05
3
2
1
11
1-676-749-
IC105
IC702
IC103
IC110
CN801
L101
L102
L702
L705
L701
L703
L704
L706
FB102
FB103
FB104
FB801
Q701
Q702
Q104
D103
X101
C104
C105
C116
C707
C708
C717
C718

SE-104/112/114 (STEADYSHOT, AV IN/OUT) PRINTED WIRING BOARD

– Ref. No.: SE-104/112/114 board; 20,000 series –

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.

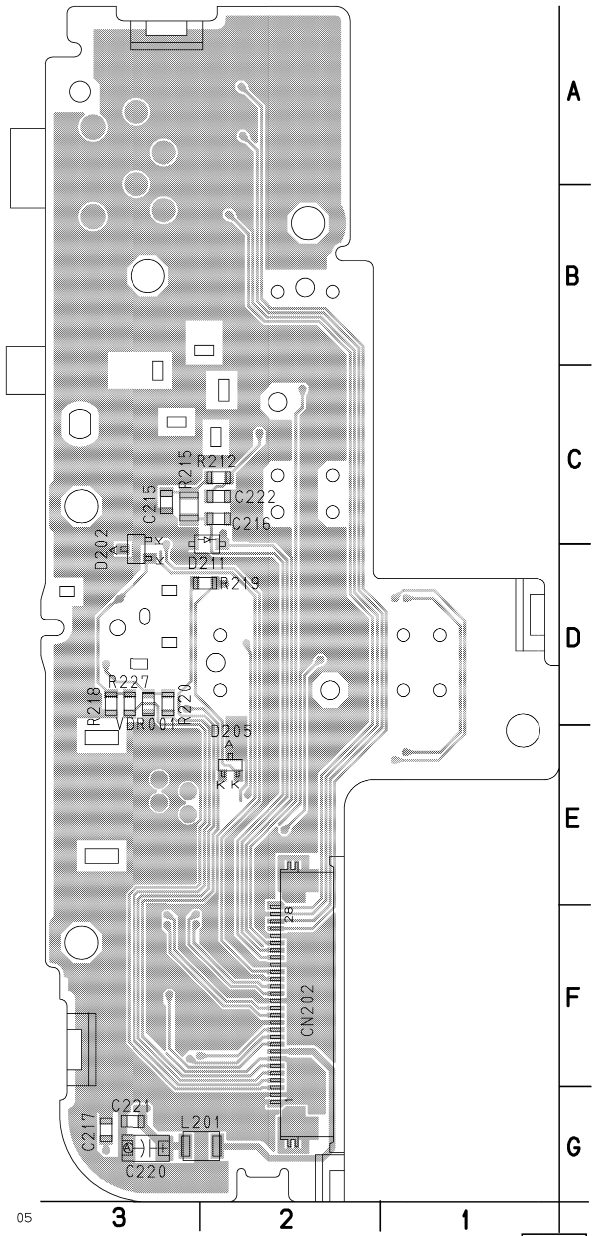
SE-104/112/114 BOARD (SIDE A)


A
B
C
D
E
F
G
C5
1
2
3
D212
R224
C225
R225
C226
LND203
R226
J201
S VIDEO
ID-2
LND202
C204
C223
R214
C224
R213
AUDIO/
VIDEO
ID-2
SE202
C218
R217
LND201
C219
R203
R202
C202
R201
C201
J202
LANC/
DIGITAL I/O
SE201
R204
C203
C206
C205
R205
VTR REC MODEL
DV IN/OUT
CN201
DV OUT
PLAYER MODEL
C212
R211
C211
C214
R209
C209
R208
10
1
IC201
C210
11
20
C213
R207
C207
C208
R210
R206
R216

SE-104: 1-676-772- 12(22)
SE-112: 1-676-758- 11(21)
SE-114: 1-676-765- 11

VTR REC MODEL: DCR-TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER MODEL: DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP

SE-104/112/114 BOARD (SIDE B)


A
B
C
D
E
F
G
05
3
2
1
R215
R212
C215
C222
C216
D202
A
K
D211
R219
R227
R218
R220
VDR001
D205
A
K
K
28
CN202
C221
C217
L201
C220

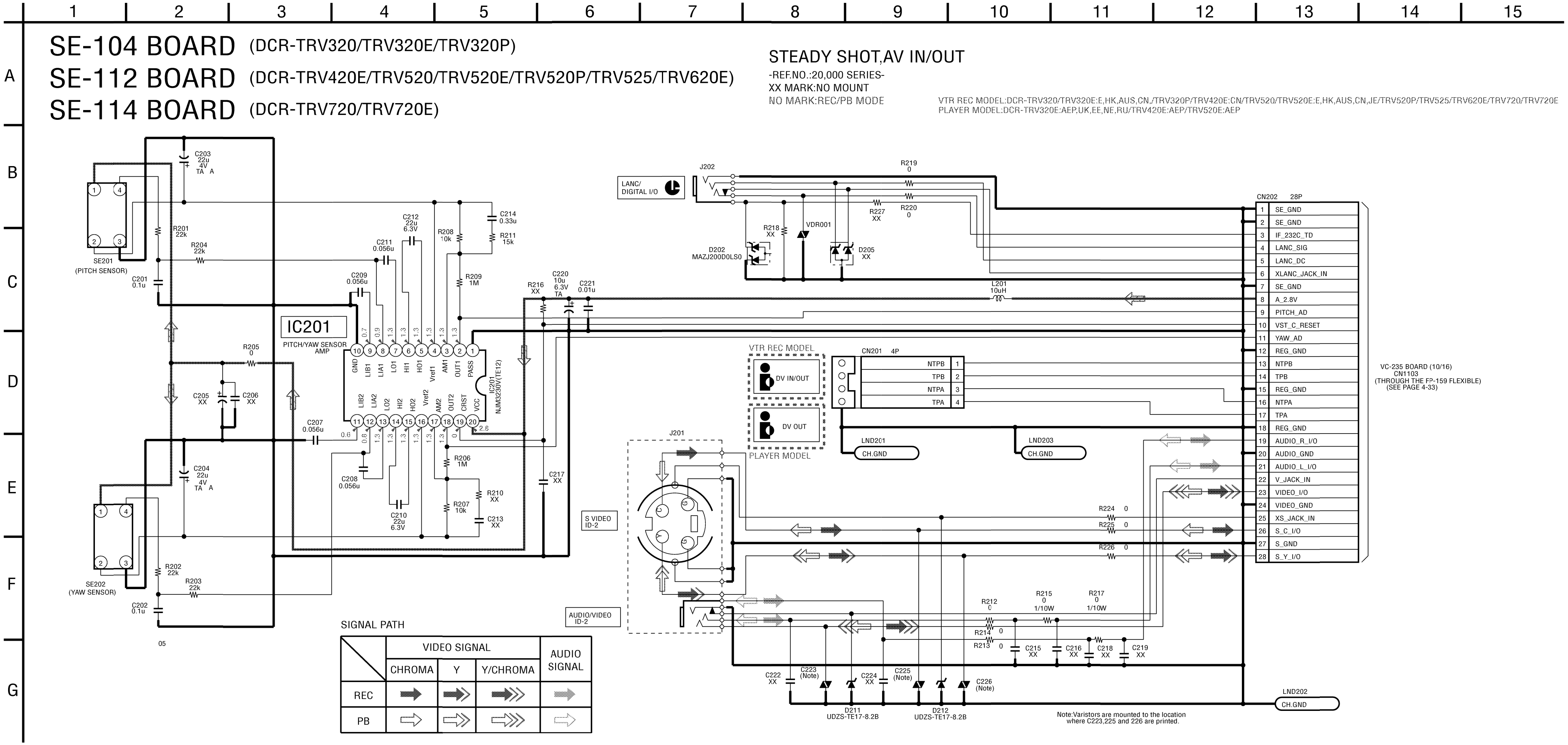
SE-104:1-676-772- 12(22)
SE-112:1-676-758- 11(21)
SE-114: 1-676-765- 11

SE-104/112/114 (STEADYSHOT, AV IN/OUT) SCHEMATIC DIAGRAM

SE-104 BOARD (DCR-TRV320/TRV320E/TRV320P)
SE-112 BOARD (DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)
SE-114 BOARD (DCR-TRV720/TRV720E)

STEADY SHOT,AV IN/OUT
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE

VTR REC MODEL:DCR-TRV320/TRV320E:E,HK,AUS,CN,/TRV320P/TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
SE201
(PITCH SENSOR)
SE202
(YAW SENSOR)
C203 22u 4V TA A
C204 22u 4V TA A
R201 22k
R204 22k
C201 0.1u
R202 22k
R203 22k
C202 0.1u
05
R205 0
C205 XX
C206 XX
C207 0.056u
C208 0.056u
C209 0.056u
C210 22u 6.3V
C211 0.056u
C212 22u 6.3V
R208 10k
C214 0.33u
R211 15k
R209 1M
R206 1M
R207 10k
R210 XX
C213 XX
R216 XX
C220 10u 6.3V TA
C221 0.01u
C217 XX
IC201
PITCH/YAW SENSOR AMP
IC201 NJM3230V(TE12)
GND
LIB1
LIA1
LO1
HI1
HO1
Vref1
AM1
OUT1
PASS
LIB2
LIA2
LO2
HI2
HO2
Vref2
AM2
OUT2
CRST
VCC
0.7
0.9
1.3
0.6
0.8
0
2.8
LANC/ DIGITAL I/O
J202
R219 0
R227 XX
R220 0
R218 XX
VDR001
D202 MAZJ200D0LS0
D205 XX
L201 10uH
VTR REC MODEL
DV IN/OUT
DV OUT
PLAYER MODEL
CN201 4P
NTPB 1
TPB 2
NTPA 3
TPA 4
LND201 CH.GND
LND203 CH.GND
LND202 CH.GND
J201
S VIDEO ID-2
AUDIO/VIDEO ID-2
C
Y
G
R224 0
R225 0
R226 0
R212 0
R214 0
R213 0
R215 0 1/10W
R217 0 1/10W
C215 XX
C216 XX
C218 XX
C219 XX
C222 XX
C223 (Note)
C224 XX
C225 (Note)
C226 (Note)
D211 UDZS-TE17-8.2B
D212 UDZS-TE17-8.2B
CN202 28P
1 SE_GND
2 SE_GND
3 IF_232C_TD
4 LANC_SIG
5 LANC_DC
6 XLANC_JACK_IN
7 SE_GND
8 A_2.8V
9 PITCH_AD
10 VST_C_RESET
11 YAW_AD
12 REG_GND
13 NTPB
14 TPB
15 REG_GND
16 NTPA
17 TPA
18 REG_GND
19 AUDIO_R_I/O
20 AUDIO_GND
21 AUDIO_L_I/O
22 V_JACK_IN
23 VIDEO_I/O
24 VIDEO_GND
25 XS_JACK_IN
26 S_C_I/O
27 S_GND
28 S_Y_I/O
VC-235 BOARD (10/16) CN1103 (THROUGH THE FP-159 FLEXIBLE) (SEE PAGE 4-33)

Note:Varistors are mounted to the location where C223,225 and 226 are printed.

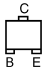
SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC	➡	➡»	➡»»	➡
PB	⇨	⇨»	⇨»»	⇨

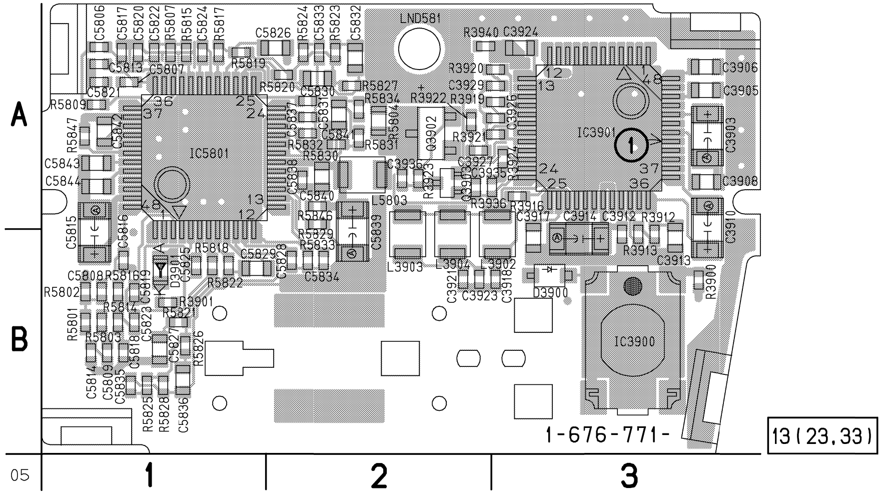
FP-156 (MIC/HP JACK, MF SENSOR), MI-37 (STEREO MIC AMP, IR TRANSMITTER) PRINTED WIRING BOARDS

– Ref. No.: FP-156 flexible board; 10,000/MI-37 board; 10,000 series –

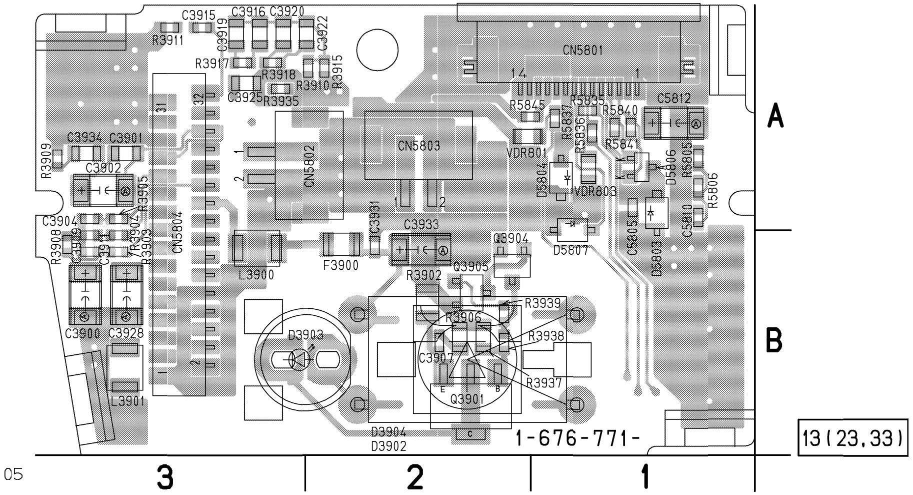
- **For Printed Wiring Board.**
- MI-37 board is eight-layer print board. However, the patterns of layers 2 to 7 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.
- Chip transistor



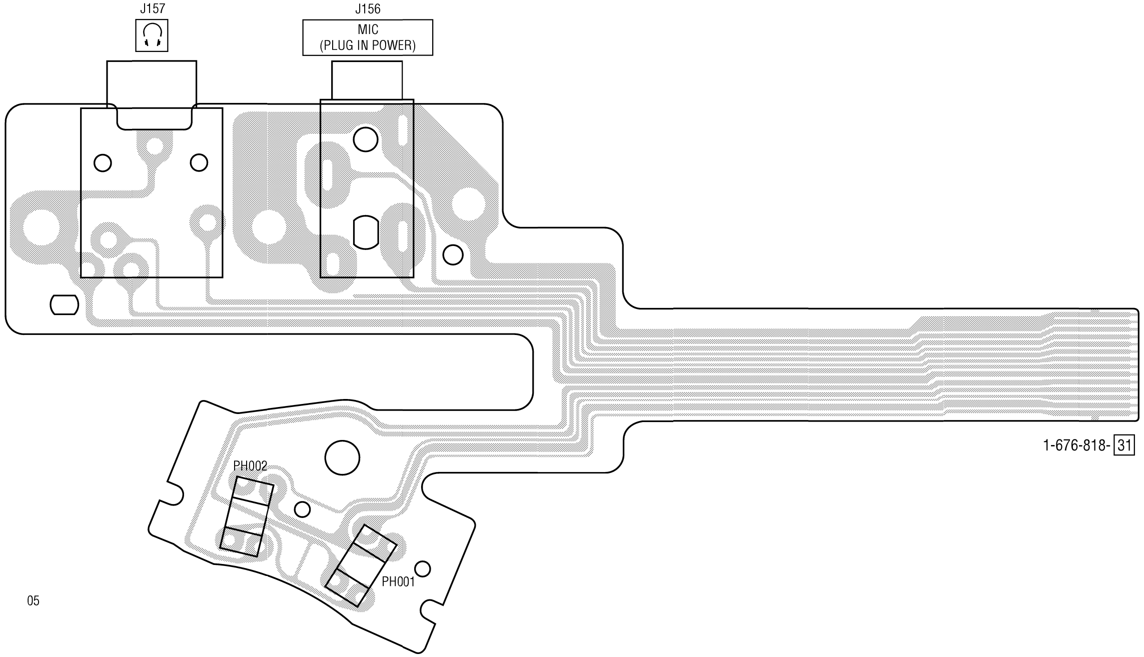
MI-37 BOARD (SIDE A)


A
B
05
1
2
3
LND581
IC5801
IC3901
IC3900
Q3902
D3900
D3901
L3903
L3904
L3902
L5803
C5806
C5817
C5820
C5822
R5807
R5815
C5824
R5817
C5826
R5824
C5833
R5823
C5832
R3940
C3924
C3906
C3905
C3903
C3908
C3910
R3900
C3913
R3913
C3912
R3912
C3914
C3917
R3916
R3936
C3923
C3918
C3921
R3920
C3929
R3919
R3922
R3921
R3923
C3927
C3935
C3926
C3936
R5827
R5834
R5804
R5831
C5841
C5830
C5831
C5837
R5832
R5830
C5838
C5840
R5846
R5829
R5833
C5839
C5834
C5828
C5829
R5818
R5822
R3901
R5821
R5826
C5827
C5823
C5818
C5819
C5825
R5816
C5808
R5802
R5801
R5803
R5814
C5809
C5835
R5825
R5828
C5836
C5815
C5816
C5843
C5844
R5847
C5842
R5809
C5821
C5813
C5807
R5819
R5820
36
37
25
24
48
13
12
1
37
36
1-676-771-
13 (23,33)

MI-37 BOARD (SIDE B)

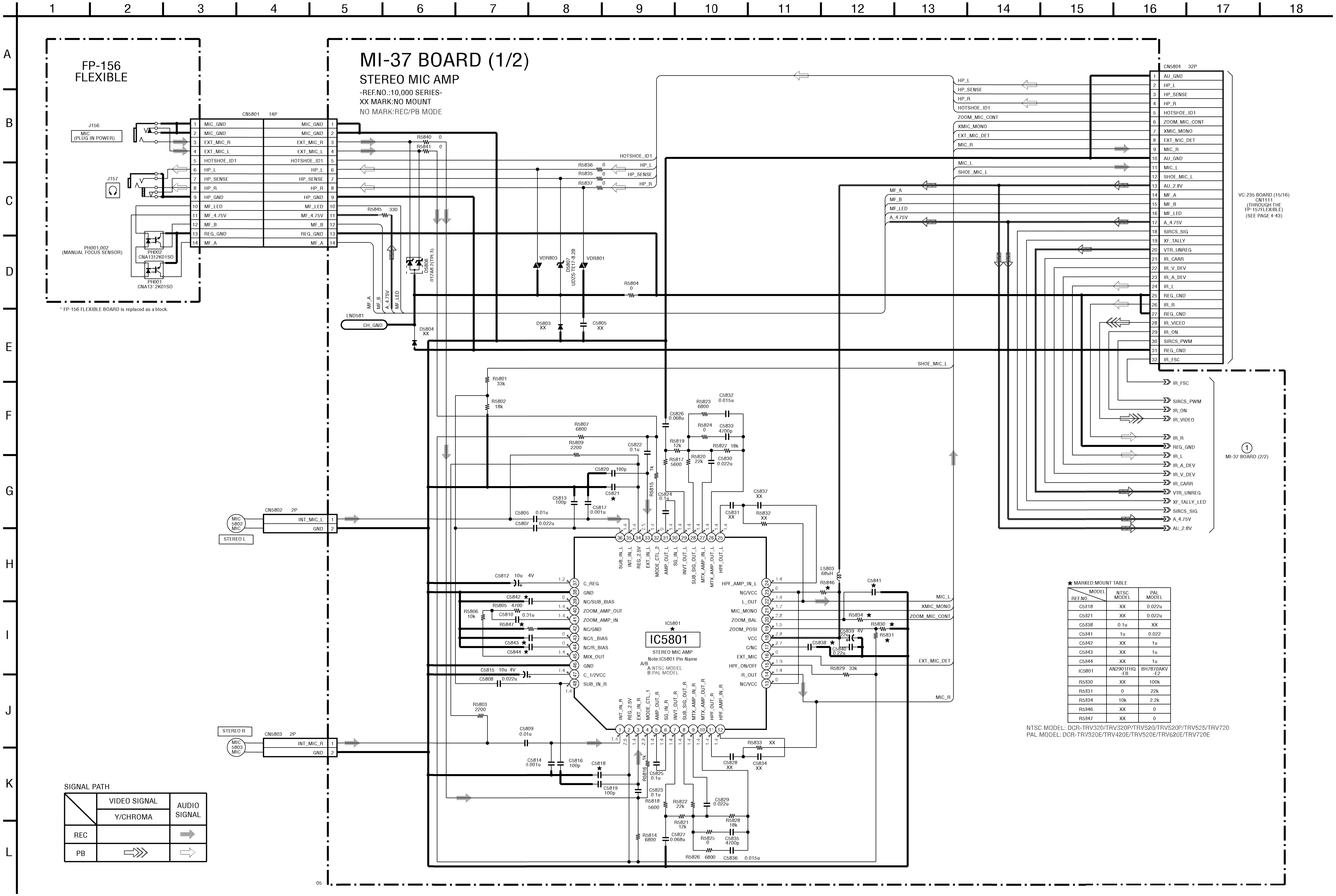

A
B
05
3
2
1
CN5801
CN5802
CN5803
CN5804
IC3931
F3900
L3900
L3901
D3903
D3904
D3902
Q3901
Q3904
Q3905
D5803
D5804
D5806
D5807
VDR801
VDR803
C3915
C3916
C3920
C3919
C3922
R3911
R3917
R3918
R3910
R3915
C3925
R3935
C3934
C3901
C3902
R3909
C3904
R3908
R3904
R3903
R3905
C3911
C3909
C3900
C3928
C3933
R3902
C3907
R3906
R3939
R3938
R3937
R5845
R5835
R5837
R5836
R5840
C5812
R5841
R5805
R5806
C5805
C5810
14
1
31
32
1-676-771-
13 (23,33)

FP-156 FLEXIBLE BOARD


J157
J156
MIC
(PLUG IN POWER)
PH002
PH001
1-676-818- 31
05

MIC/HP JACK, MF SENSOR/STEREO MIC AMP, IR TRANSMITTER
FP-156 / MI-37

FP-156 (MIC/HP JACK, MF SENSOR), MI-37 (STEREO MIC AMP) SCHEMATIC DIAGRAM • See page 4-59 for FP-156 and MI-37 printed wiring boards.


FP-156
FLEXIBLE
J156
MIC (PLUG IN POWER)
J157
PH001,002 (MANUAL FOCUS SENSOR)
PH002 CNA1312K01SO
PH001 CNA1312K01SO
* FP-156 FLEXIBLE BOARD is replaced as a block.
CN5801 14P
1 MIC_GND
2 MIC_GND
3 EXT_MIC_R
4 EXT_MIC_L
5 HOTSHOE_ID1
6 HP_L
7 HP_SENSE
8 HP_R
9 HP_GND
10 MF_LED
11 MF_4.75V
12 MF_B
13 REG_GND
14 MF_A
MI-37 BOARD (1/2)
STEREO MIC AMP
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R5840 0
R5841 0
R5845 330
D5806 01ZA8.2(TPL3)
VDR803
D5807 UDZS TE17-8.2B
VDR801
D5803 XX
C5805 XX
D5804 XX
R5804 0
R5836 0
R5835 0
R5837 0
LND581
CH_GND
MIC 5802 MIC
STEREO L
CN5802 2P
INT_MIC_L
GND
MIC 5803 MIC
STEREO R
CN5803 2P
INT_MIC_R
IC5801
STEREO MIC AMP
Note:IC5801 Pin Name
A/B
A:NTSC MODEL
B:PAL MODEL
CN5804 32P
1 AU_GND
2 HP_L
3 HP_SENSE
4 HP_R
5 HOTSHOE_ID1
6 ZOOM_MIC_CONT
7 XMIC_MONO
8 EXT_MIC_DET
9 MIC_R
10 AU_GND
11 MIC_L
12 SHOE_MIC_L
13 AU_2.8V
14 MF_A
15 MF_B
16 MF_LED
17 A_4.75V
18 SIRCS_SIG
19 XF_TALLY
20 VTR_UNREG
21 IR_CARR
22 IR_V_DEV
23 IR_A_DEV
24 IR_L
25 REG_GND
26 IR_R
27 REG_GND
28 IR_VIDEO
29 IR_ON
30 SIRCS_PWM
31 REG_GND
32 IR_FSC
VC-235 BOARD (15/16)
CN1111
(THROUGH THE FP-157FLEXIBLE)
(SEE PAGE 4-43)
① MI-37 BOARD (2/2)
IR_FSC
SIRCS_PWM
IR_ON
IR_VIDEO
IR_R
REG_GND
IR_L
IR_A_DEV
IR_V_DEV
IR_CARR
VTR_UNREG
XF_TALLY_LED
SIRCS_SIG
A_4.75V
AU_2.8V

★ MARKED:MOUNT TABLE

MODEL / REF.NO.	NTSC MODEL	PAL MODEL
C5818	XX	0.022u
C5821	XX	0.022u
C5838	0.1u	XX
C5841	1u	0.022
C5842	XX	1u
C5843	XX	1u
C5844	XX	1u
IC5801	AN2901FHQ -EB	BH7870AKV -E2
R5830	XX	100k
R5831	0	22k
R5834	10k	2.2k
R5846	XX	0
R5847	XX	0

NTSC MODEL: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

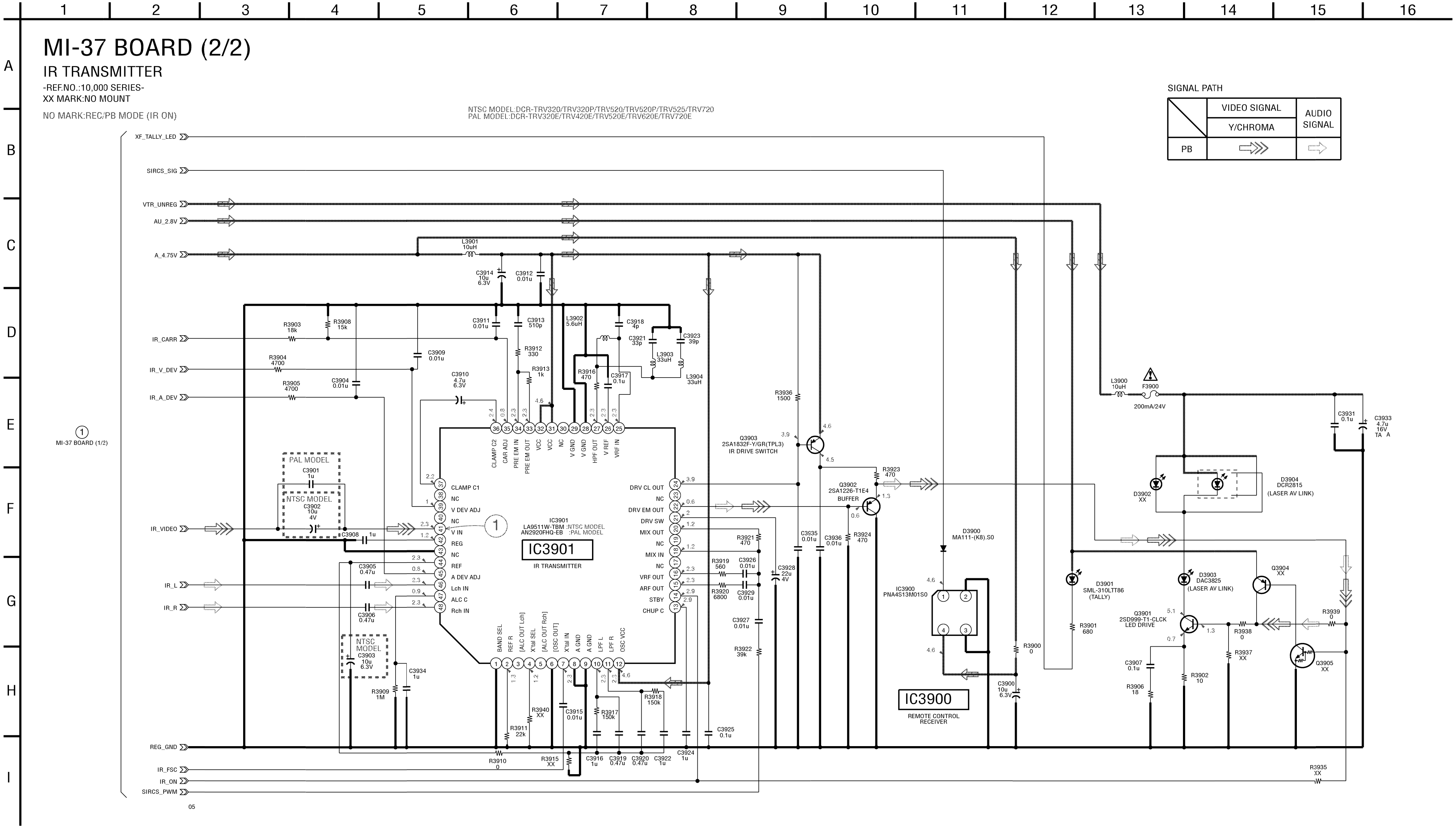
SIGNAL PATH

	VIDEO SIGNAL	AUDIO SIGNAL
	Y/CHROMA	
REC		⇒
PB	⇒≫	⇒

05

MIC/HP JACK, MF SENSOR/STEREO MIC AMP
FP-156 / MI-37 (1/2)

MI-37 (IR TRANSMITTER) SCHEMATIC DIAGRAM • See page 4-59 for MI-37 printed wiring board. • See page 4-122 for waveform.


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
MI-37 BOARD (2/2)
IR TRANSMITTER
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE (IR ON)
NTSC MODEL:DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL MODEL:DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E
XF_TALLY_LED
SIRCS_SIG
VTR_UNREG
AU_2.8V
A_4.75V
IR_CARR
IR_V_DEV
IR_A_DEV
IR_VIDEO
IR_L
IR_R
REG_GND
IR_FSC
IR_ON
SIRCS_PWM
MI-37 BOARD (1/2)
L3901 10uH
C3914 10u 6.3V
C3912 0.01u
C3911 0.01u
C3913 510p
L3902 5.6uH
C3918 4p
C3921 33p
C3923 39p
L3903 33uH
L3904 33uH
R3903 18k
R3908 15k
R3904 4700
R3905 4700
C3904 0.01u
C3909 0.01u
R3912 330
R3913 1k
C3910 4.7u 6.3V
R3916 470
C3917 0.1u
PAL MODEL
C3901 1u
NTSC MODEL
C3902 10u 4V
C3908 1u
C3905 0.47u
C3906 0.47u
NTSC MODEL
C3903 10u 6.3V
C3934 1u
R3909 1M
CLAMP C2
CAR ADJ
PRE EM IN
PRE EM OUT
VCC
VCC
NC
V GND
V GND
HPF OUT
V REF
VRF IN
CLAMP C1
NC
V DEV ADJ
NC
V IN
REG
NC
REF
A DEV ADJ
Lch IN
ALC C
Rch IN
DRV CL OUT
NC
DRV EM OUT
DRV SW
MIX OUT
NC
MIX IN
NC
VRF OUT
ARF OUT
STBY
CHUP C
BAND SEL
REF R
[ALC OUT Lch]
X'tal SEL
[ALC OUT Rch]
[OSC OUT]
X'tal IN
A GND
A GND
LPF L
LPF R
OSC VCC
IC3901
LA9511W-TBM :NTSC MODEL
AN2920FHQ-EB :PAL MODEL
IC3901
IR TRANSMITTER
R3940 XX
C3915 0.01u
R3917 150k
R3918 150k
R3911 22k
R3910 0
R3915 XX
C3916 1u
C3919 0.47u
C3920 0.47u
C3922 1u
C3924 1u
C3925 0.1u
R3921 470
R3919 560
C3926 0.01u
R3920 6800
C3929 0.01u
C3927 0.01u
R3922 39k
C3928 22u 4V
C3535 0.01u
C3936 0.01u
R3924 470
R3936 1500
Q3903
2SA1832F-Y/GR(TPL3)
IR DRIVE SWITCH
Q3902
2SA1226-T1E4
BUFFER
R3923 470
D3900
MA111-(K8).S0
IC3900
PNA4S13M01S0
IC3900
REMOTE CONTROL RECEIVER
R3900 0
C3900 10u 6.3V
D3901
SML-310LT86
(TALLY)
R3901 680
L3900 10uH
F3900
200mA/24V
C3931 0.1u
C3933 4.7u 16V TA A
D3902 XX
D3904
DCR2815
(LASER AV LINK)
D3903
DAC3825
(LASER AV LINK)
Q3904 XX
Q3901
2SD999-T1-CLCK
LED DRIVE
R3938 0
R3937 XX
R3939 0
Q3905 XX
C3907 0.1u
R3906 18
R3902 10
R3935 XX
05

SIGNAL PATH

	VIDEO SIGNAL	AUDIO SIGNAL
	Y/CHROMA	
PB	⇒	⇨

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

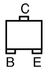
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

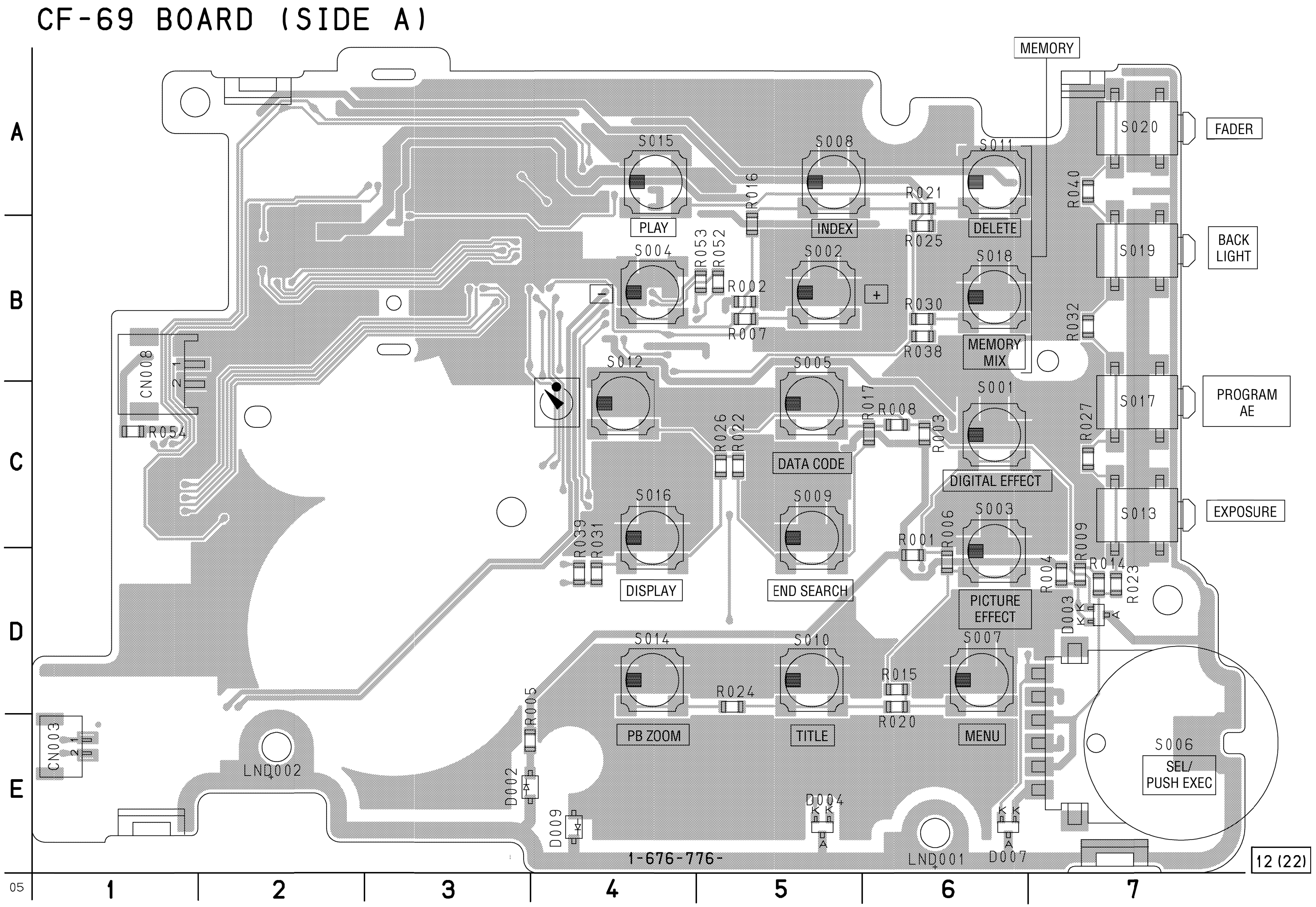
CF-69 (USER CONTROL) PRINTED WIRING BOARD

– Ref. No.: CF-69 board; 20,000 series –

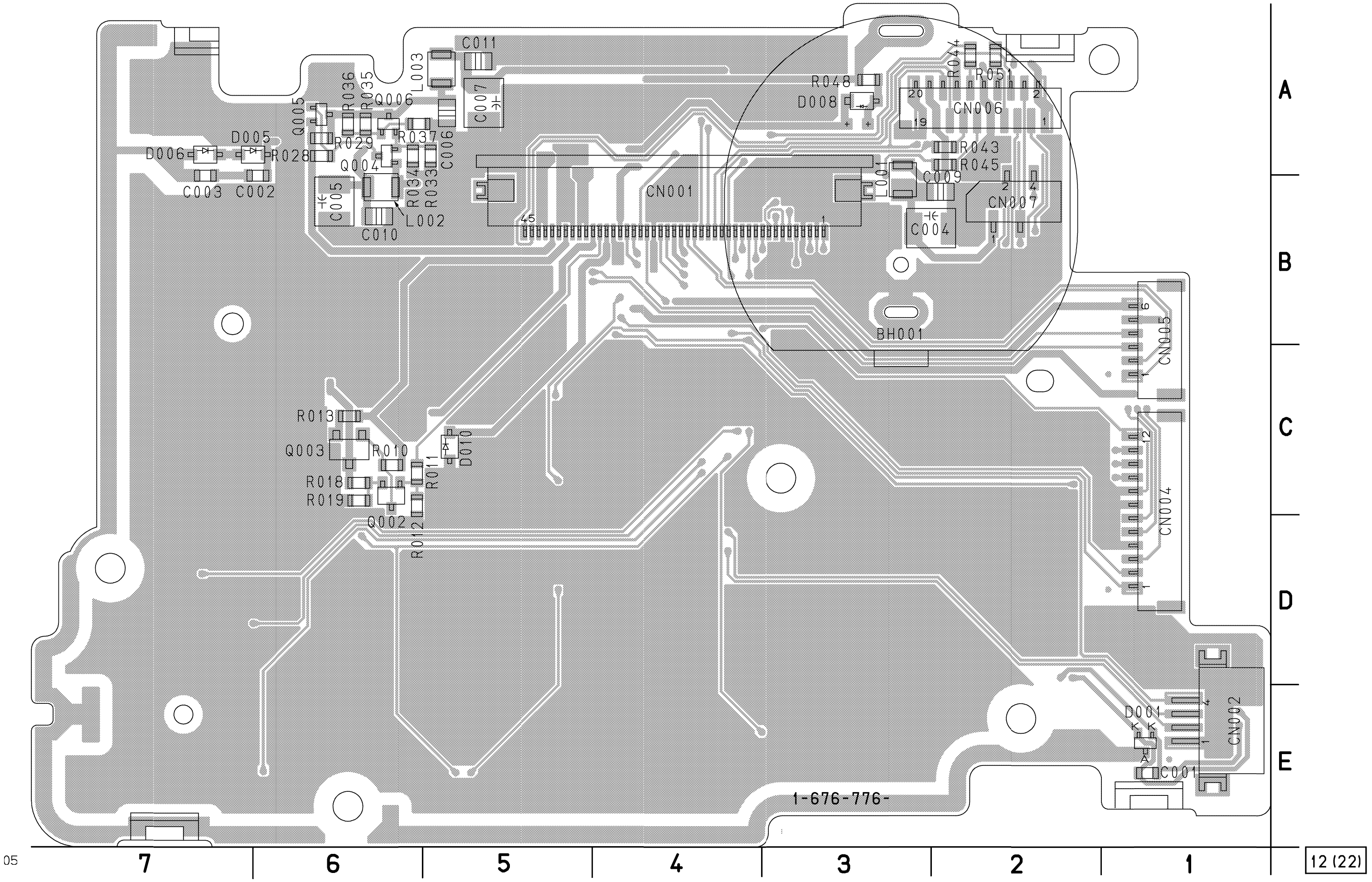
– DCR-TRV320/TRV320E/TRV320P –

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.
- Chip transistor

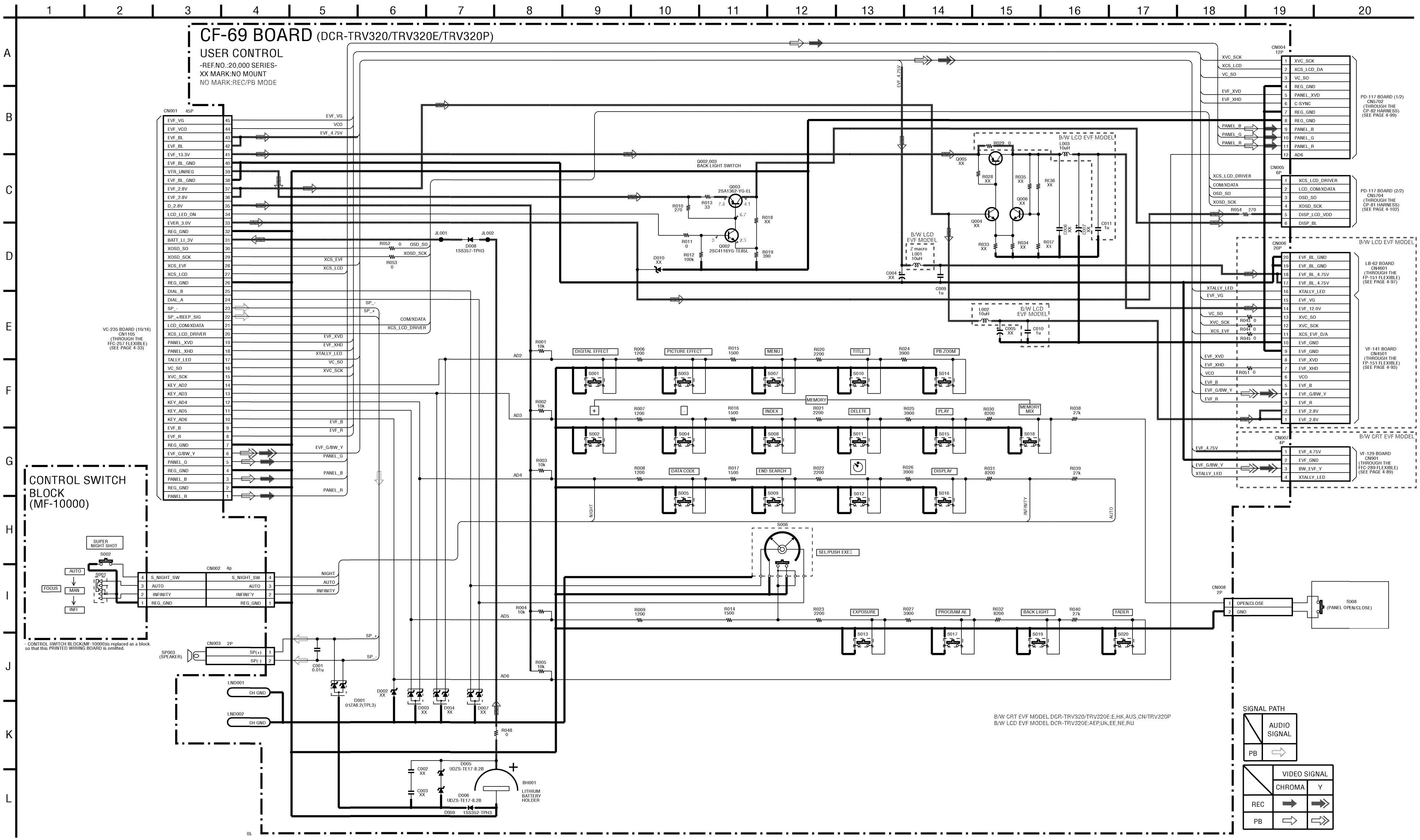



CF-69 BOARD (SIDE A)
MEMORY
A
B
C
D
E
S015
PLAY
S008
INDEX
S011
DELETE
S020
FADER
R040
R016
R021
R025
S004
R053
R052
S002
S018
S019
BACK LIGHT
R002
R007
R030
R038
MEMORY MIX
R032
CN008
2
1
R054
S012
S005
R017
R008
R003
S001
S017
PROGRAM AE
R027
R026
R022
DATA CODE
DIGITAL EFFECT
S016
S009
S003
S013
EXPOSURE
R039
R031
R006
R001
R009
R004
R014
R023
DISPLAY
END SEARCH
PICTURE EFFECT
D003
S014
S010
S007
R005
R024
R015
R020
CN003
2
1
PB ZOOM
TITLE
MENU
S006
SEL/ PUSH EXEC
LND002
D002
D009
D004
D007
LND001
1-676-776-
12 (22)
05
1
2
3
4
5
6
7

CF-69 BOARD (SIDE B)

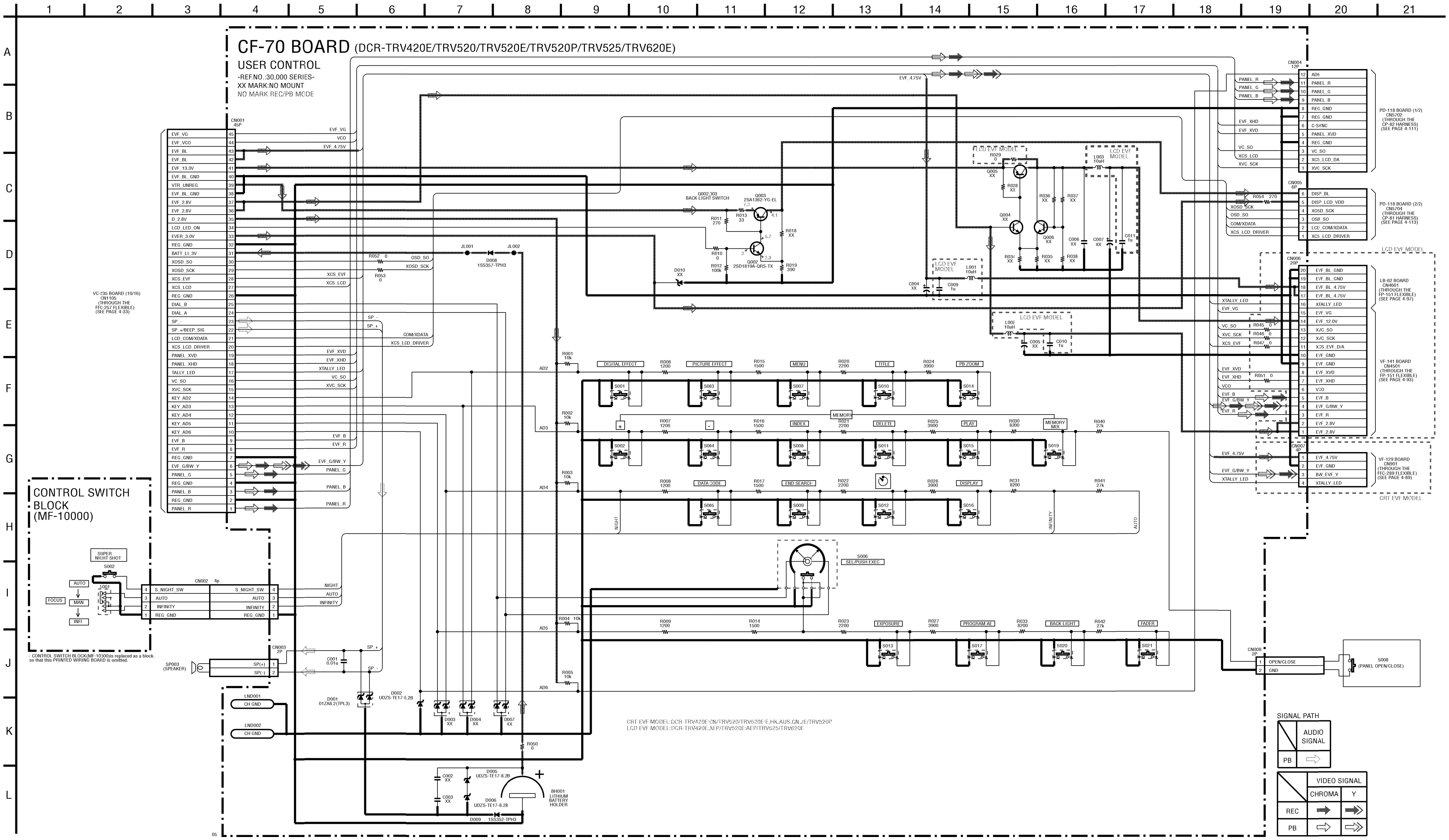

C011
L003
R036
R035
Q006
Q005
C007
R029
R037
C006
D005
D006
R028
Q004
R034
R033
C003
C002
C005
L002
C010
CN001
45
1
R048
D008
R044
R051
20
2
19
1
CN006
R043
R045
L001
C009
CN007
C004
BH001
CN005
6
1
12
CN004
1
R013
Q003
R010
D010
R011
R018
R019
Q002
R012
D001
CN002
4
1
C001
1-676-776-
A
B
C
D
E
7
6
5
4
3
2
1
05
12 (22)

MF-10000 (CONTROL SWITCH BLOCK), CF-69 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-67 for CF-69 printed wiring board.


CF-69 BOARD (DCR-TRV320/TRV320E/TRV320P)
USER CONTROL
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN001 45P
EVF_VG
EVF_VCO
EVF_BL
EVF_BL
EVF_13.3V
EVF_BL_GND
VTR_UNREG
EVF_BL_GND
EVF_2.8V
EVF_2.8V
D_2.8V
LCD_LED_ON
EVER_3.0V
REG_GND
BATT_LI_3V
XOSD_SO
XOSD_SCK
XCS_EVF
XCS_LCD
REG_GND
DIAL_B
DIAL_A
SP_-
SP_+/BEEP_SIG
LCD_COM/XDATA
XCS_LCD_DRIVER
PANEL_XVD
PANEL_XHD
TALLY_LED
VC_SO
XVC_SCK
KEY_AD2
KEY_AD3
KEY_AD4
KEY_AD5
KEY_AD6
EVF_B
EVF_R
REG_GND
EVF_G/BW_Y
PANEL_G
REG_GND
PANEL_B
REG_GND
PANEL_R
VC-235 BOARD (10/16) CN1105 (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-33)
Q002,003 BACK LIGHT SWITCH
Q003 2SA1362-YG-EL
Q002 2SC4116YG-TE85L
D008 1SS357-TPH3
JL001
JL002
B/W LCD EVF MODEL
DIGITAL EFFECT
PICTURE EFFECT
MENU
TITLE
PB ZOOM
MEMORY
INDEX
DELETE
PLAY
MEMORY MIX
DATA CODE
END SEARCH
DISPLAY
NIGHT
INFINITY
AUTO
S006
SEL/PUSH EXEC
EXPOSURE
PROGRAM AE
BACK LIGHT
FADER
CONTROL SWITCH BLOCK (MF-10000)
SUPER NIGHT SHOT
S002
S001
AUTO
FOCUS
MAN
INFI
CN002 4p
S_NIGHT_SW
AUTO
INFINITY
REG_GND
CONTROL SWITCH BLOCK(MF-10000)is replaced as a block so that this PRINTED WIRING BOARD is omitted.
SP003 (SPEAKER)
CN003 2P
SP(+)
SP(-)
LND001
LND002
OH GND
D001 01ZA8.2(TPL3)
D005 UDZS-TE17-8.2B
D006 UDZS-TE17-8.2B
D009 1SS352-TPH3
BH001 LITHIUM BATTERY HOLDER
CN004 12P
XVC_SCK
XCS_LCD_DA
VC_SO
REG_GND
PANEL_XVD
C-SYNC
REG_GND
REG_GND
PANEL_B
PANEL_G
PANEL_R
AD6
PD-117 BOARD (1/2) CN5702 (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-99)
CN005 6P
XCS_LCD_DRIVER
LCD_COM/XDATA
OSD_SO
XOSD_SCK
DISP_LCD_VDD
DISP_BL
PD-117 BOARD (2/2) CN5704 (THROUGH THE CP-81 HARNESS) (SEE PAGE 4-102)
CN006 20P
LB-62 BOARD CN4601 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-97)
VF-141 BOARD CN4501 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-93)
B/W CRT EVF MODEL
CN007 4P
EVF_4.75V
EVF_GND
BW_EVF_Y
XTALLY_LED
VF-129 BOARD CN901 (THROUGH THE FFC-289 FLEXIBLE) (SEE PAGE 4-89)
CN008 2P
OPEN/CLOSE
GND
S008 (PANEL OPEN/CLOSE)
B/W CRT EVF MODEL:DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P
B/W LCD EVF MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU
SIGNAL PATH
AUDIO SIGNAL
PB
VIDEO SIGNAL
CHROMA
Y
REC
PB

CONTROL SWITCH BLOCK/USER CONTROL
MF-10000 CF-69

MF-10000 (CONTROL SWITCH BLOCK), CF-70 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-75 for CF-70 printed wiring board.


CF-70 BOARD (DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)
USER CONTROL
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CONTROL SWITCH BLOCK (MF-10000)
CN001 45P
VC-235 BOARD (10/16) CN1105 (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-33)
EVF_VG
EVF_VCO
EVF_BL
EVF_13.3V
EVF_BL_GND
VTR_UNREG
EVF_2.8V
D_2.8V
LCD_LED_ON
EVER_3.0V
REG_GND
BATT_LI_3V
XOSD_SO
XOSD_SCK
XCS_EVF
XCS_LCD
DIAL_B
DIAL_A
SP_-
SP_+/BEEP_SIG
LCD_COM/XDATA
XCS_LCD_DRIVER
PANEL_XVD
PANEL_XHD
TALLY_LED
VC_SO
XVC_SCK
KEY_AD2
KEY_AD3
KEY_AD4
KEY_AD5
KEY_AD6
EVF_B
EVF_R
EVF_G/BW_Y
PANEL_G
PANEL_B
PANEL_R
Q002,003 BACK LIGHT SWITCH
Q003 2SA1362-YG-EL
Q002 2SD1819A-QRS-TX
D008 1SS357-TPH3
LCD EVF MODEL
CN004 12P
PD-118 BOARD (1/2) CN5702 (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-111)
CN005 6P
PD-118 BOARD (2/2) CN5704 (THROUGH THE CP-81 HARNESS) (SEE PAGE 4-113)
CN006 20P
LB-62 BOARD CN4601 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-97)
VF-141 BOARD CN4501 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-93)
CN007 4P
VF-129 BOARD CN901 (THROUGH THE FFC-289 FLEXIBLE) (SEE PAGE 4-89)
CRT EVF MODEL
DIGITAL EFFECT
PICTURE EFFECT
MENU
TITLE
PB ZOOM
MEMORY
INDEX
DELETE
PLAY
MEMORY MIX
DATA CODE
END SEARCH
DISPLAY
NIGHT
INFINITY
AUTO
S006 SEL/PUSH EXEC
EXPOSURE
PROGRAM AE
BACK LIGHT
FADER
CN008 2P
OPEN/CLOSE
GND
S008 (PANEL OPEN/CLOSE)
SUPER NIGHT SHOT
S002
S001
AUTO
FOCUS
MAN
INFI
CN002 4p
S_NIGHT_SW
INFINITY
REG_GND
SP003 (SPEAKER)
CN003 2P
SP(+)
SP(-)
C001 0.01u
D001 01ZA8.2(TPL3)
D002 UDZS-TE17-8.2B
LND001 CH GND
LND002 CH GND
D005 UDZS-TE17-8.2B
D006 UDZS-TE17-8.2B
D009 1SS352-TPH3
BH001 LITHIUM BATTERY HOLDER
SIGNAL PATH
AUDIO SIGNAL
PB
VIDEO SIGNAL
CHROMA
Y
REC

· CONTROL SWITCH BLOCK(MF-10000)is replaced as a block.
so that this PRINTED WIRING BOARD is omitted.

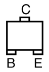
CRT EVF MODEL:DCR-TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P
LCD EVF MODEL:DCR-TRV420E:AEP/TRV520E:AEP/TRV525/TRV620E

CF-70 (USER CONTROL) PRINTED WIRING BOARD

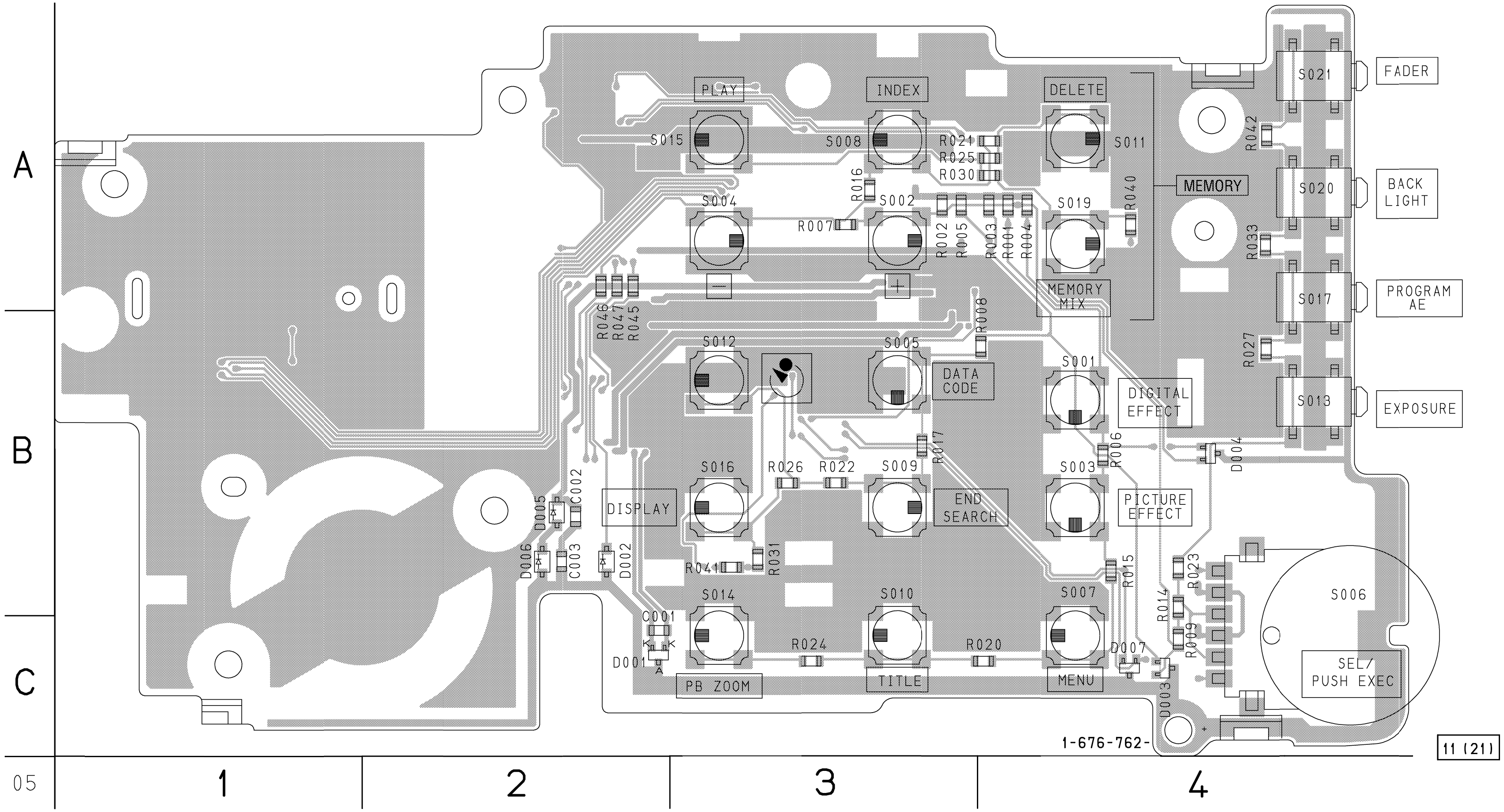
– Ref. No.: CF-70 board; 30,000 series –

– DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E –

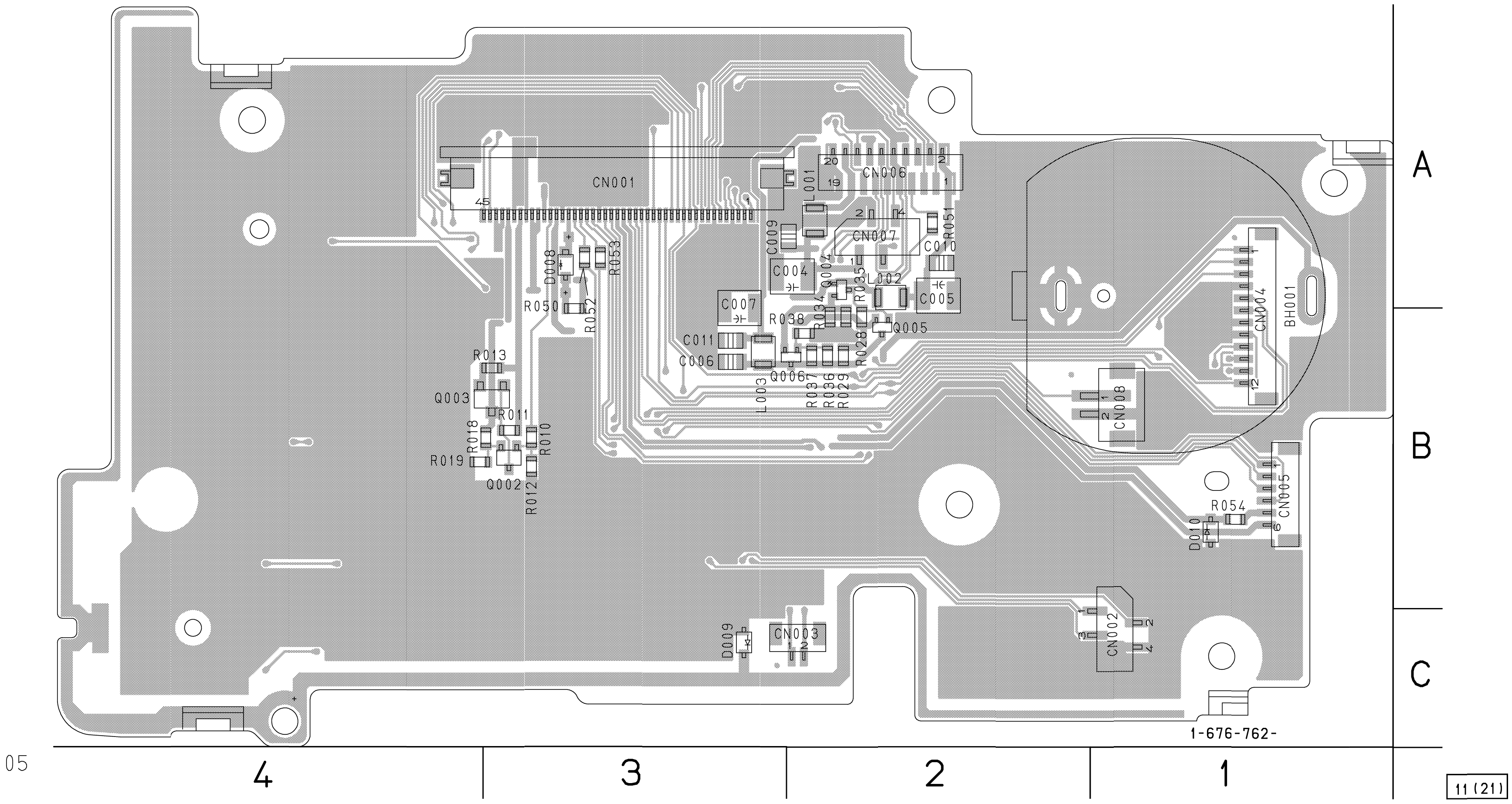
- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-126 for printed parts location.
- Chip transistor



CF-70 BOARD(SIDE A)

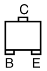

A
B
C
05
1
2
3
4
PLAY
INDEX
DELETE
S015
S008
S011
R021
R025
R030
R016
S004
S002
S019
R040
MEMORY
R007
R002
R005
R003
R001
R004
−
+
MEMORY MIX
R046
R047
R045
R008
S012
S005
DATA CODE
S001
DIGITAL EFFECT
R017
R006
D004
S016
R026
R022
S009
S003
DISPLAY
END SEARCH
PICTURE EFFECT
D005
C002
D006
C003
D002
R041
R031
R015
R023
R014
R009
S014
S010
S007
S006
C001
R024
R020
D007
D001
PB ZOOM
TITLE
MENU
D003
SEL/ PUSH EXEC
S021
FADER
R042
S020
BACK LIGHT
R033
S017
PROGRAM AE
R027
S013
EXPOSURE
1-676-762-
11 (21)

CF-70 BOARD(SIDE B)

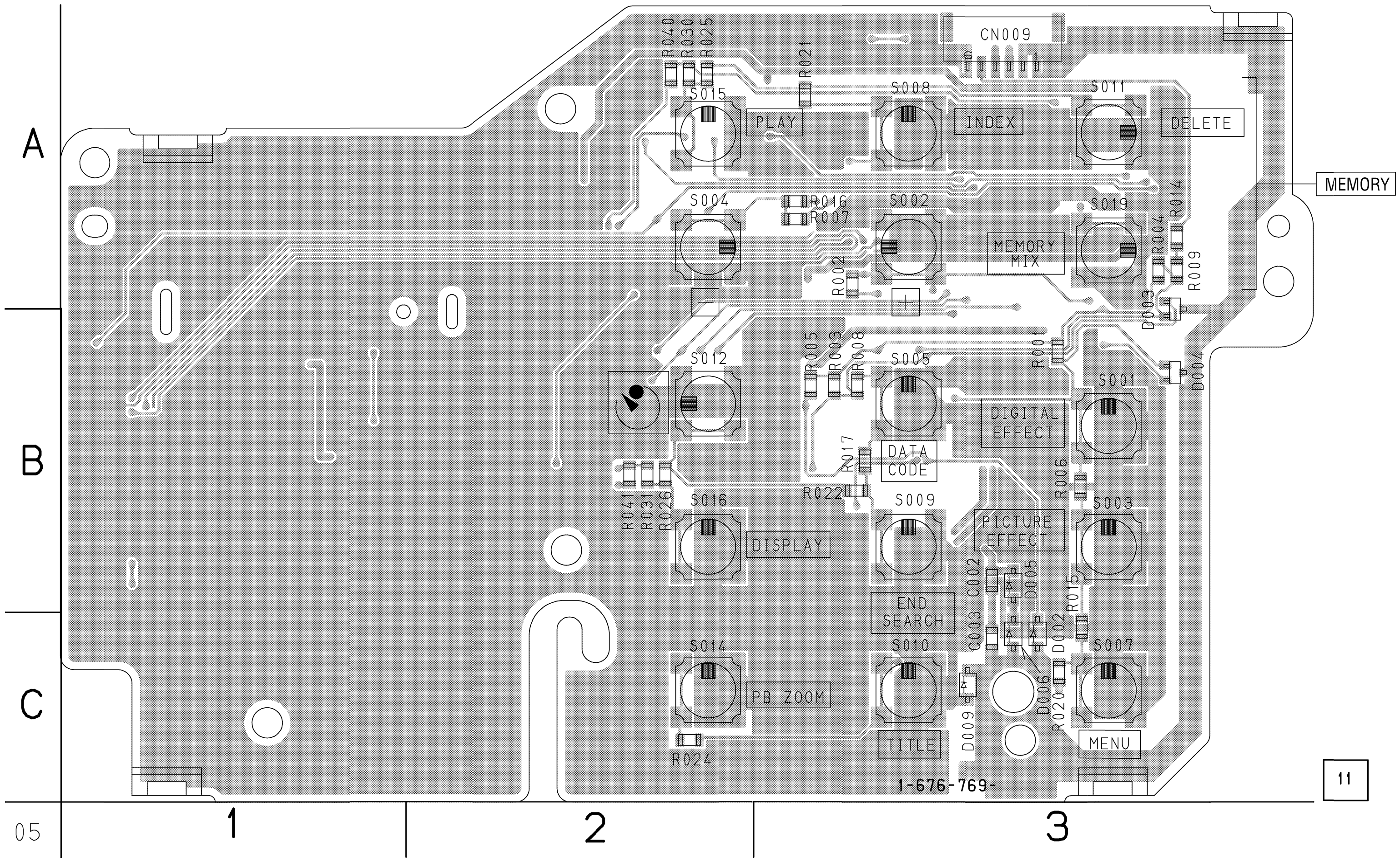

CN001
45
1
CN006
20
19
2
1
L001
CN007
R051
C009
C010
C004
Q004
R035
L002
C005
D008
R053
R050
R052
C007
R038
R034
Q005
C011
C006
Q006
L003
R037
R036
R029
R028
R013
Q003
R011
R018
R010
R019
Q002
R012
CN004
BH001
1
12
CN008
CN005
R054
D010
D009
CN003
CN002
1-676-762-
A
B
C
4
3
2
1
05
11 (21)

CF-72 (USER CONTROL) PRINTED WIRING BOARD
– Ref. No.: CF-72 board; 40,000 series –
– DCR-TRV720/TRV720E –

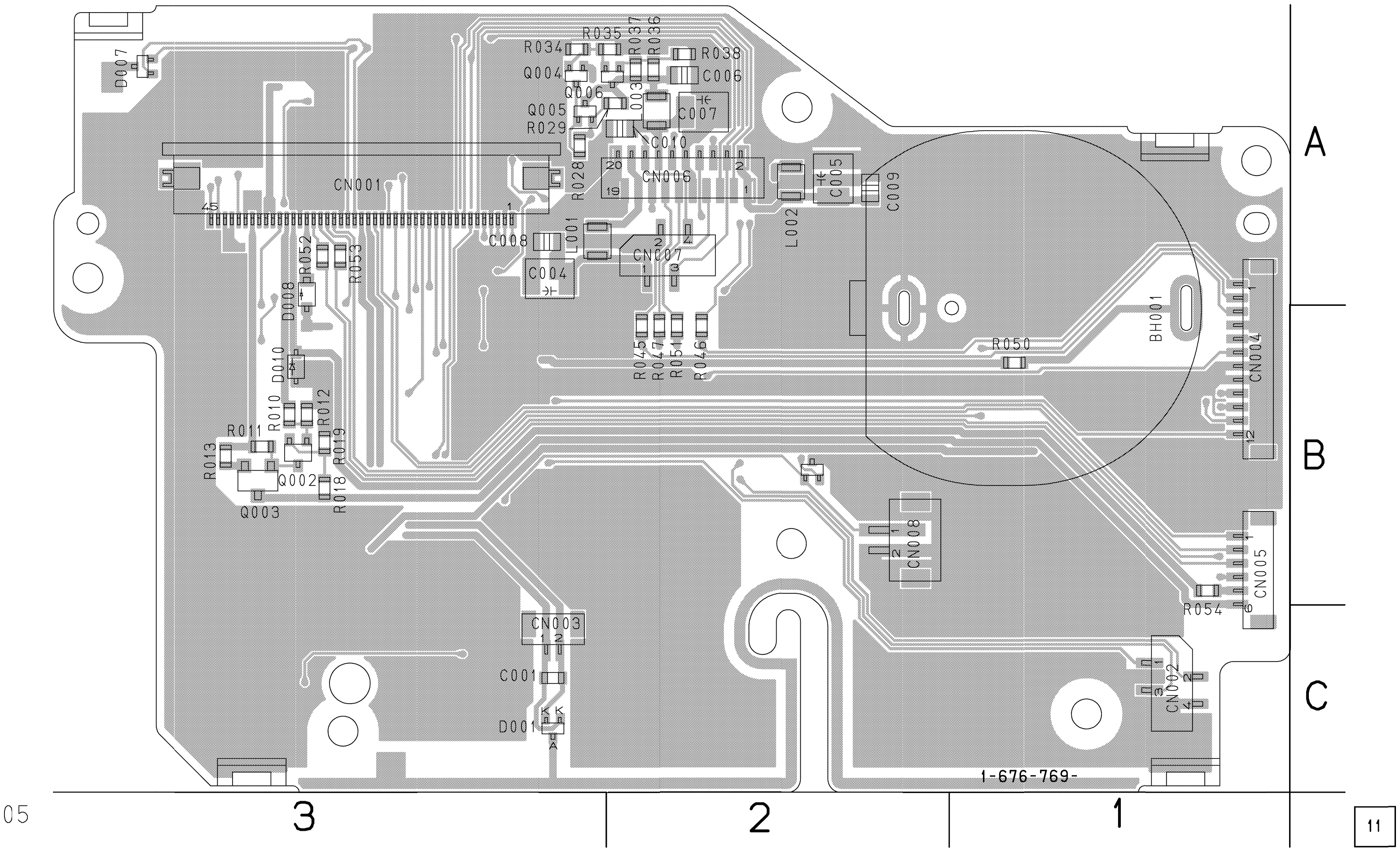
- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor



CF-72 BOARD(SIDE A)

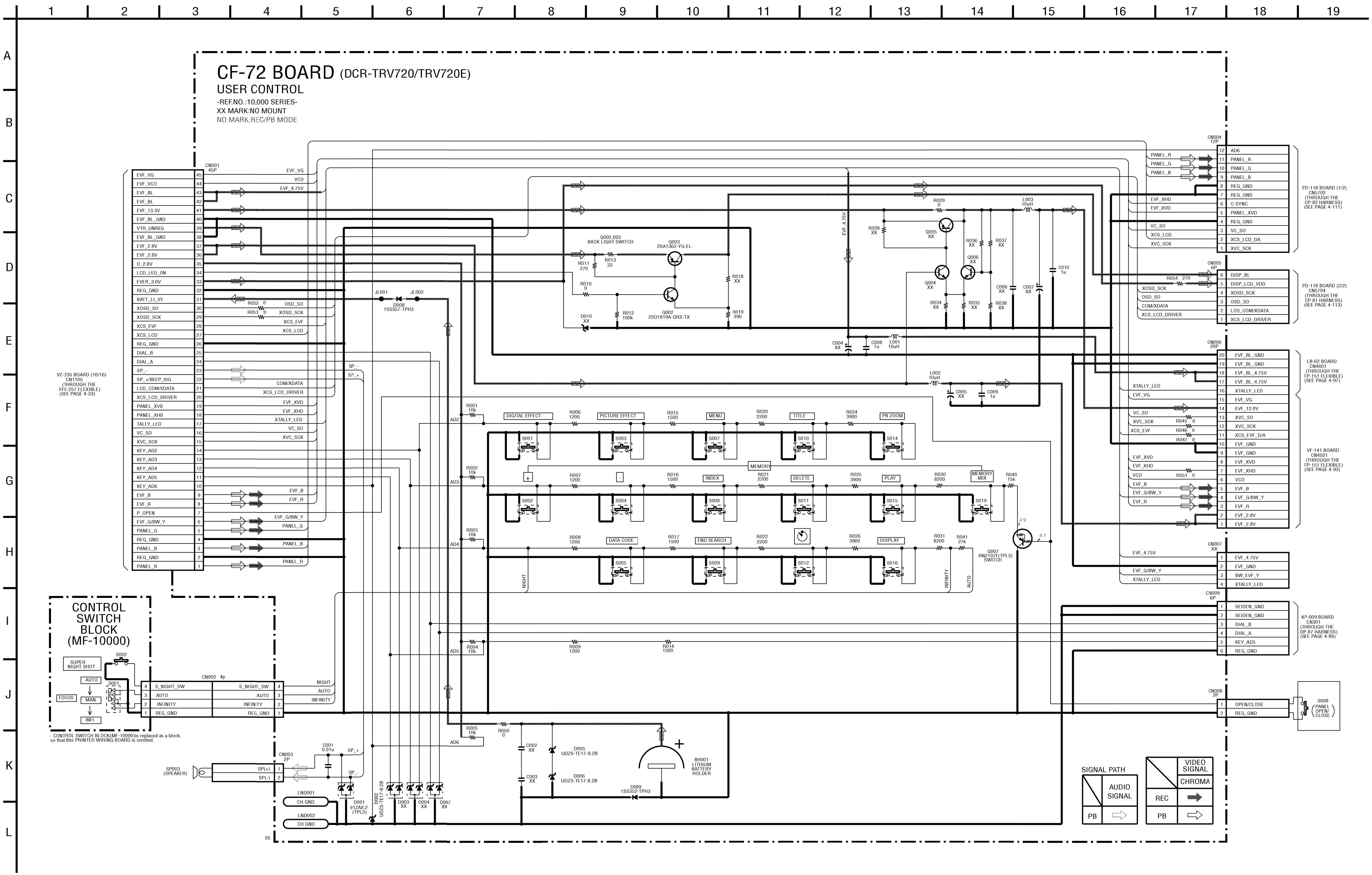

CN009
R040
R030
R025
R021
S015
PLAY
S008
INDEX
S011
DELETE
MEMORY
S004
R016
R007
S002
S019
R014
R004
R009
MEMORY MIX
R002
D003
R001
D004
S012
R005
R003
R008
S005
S001
DIGITAL EFFECT
R017
DATA CODE
R006
R041
R031
R026
R022
S016
DISPLAY
S009
PICTURE EFFECT
S003
C002
D005
END SEARCH
C003
D002
R015
S014
PB ZOOM
S010
S007
D006
R020
D009
TITLE
MENU
R024
1-676-769-
11
A
B
C
1
2
3
05

CF-72 BOARD(SIDE B)


D007
R034
R035
R037
R036
R038
C006
Q004
Q006
Q003
Q005
C007
R029
C010
CN001
45
1
R028
20
19
CN006
2
1
C005
C009
L002
C008
L001
CN007
1
2
3
4
C004
R052
R053
D008
BH001
R050
CN004
1
12
R045
R047
R051
R046
D010
R010
R012
R011
R013
R019
Q002
Q003
R018
CN008
1
2
CN005
1
6
R054
CN003
1
2
C001
D001
K
K
A
CN002
1
2
3
4
1-676-769-
A
B
C
3
2
1
05
11

USER CONTROL
CF-72

MF-10000 (CONTROL SWITCH BLOCK), CF-72 (USER CONTROL) SCHEMATIC DIAGRAM • See page 4-79 for CF-72 printed wiring board.

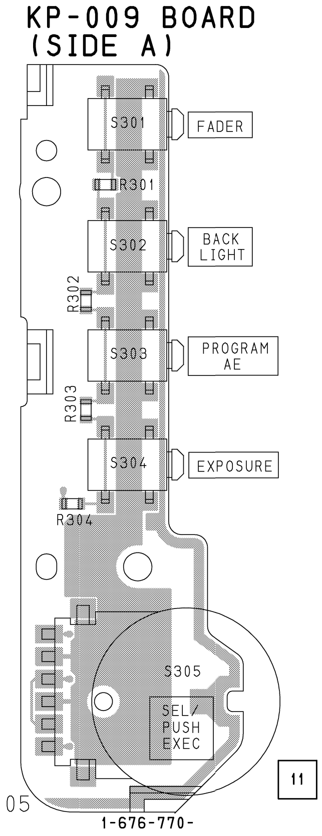

CF-72 BOARD (DCR-TRV720/TRV720E)
USER CONTROL
-REF.NO.:10,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CONTROL SWITCH BLOCK (MF-10000)
VC-235 BOARD (10/16) CN1105 (THROUGH THE FFC-257 FLEXIBLE) (SEE PAGE 4-33)
FD-118 BOARD (1/2) CN5702 (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-111)
FD-118 BOARD (2/2) CN5704 (THROUGH THE CP-81 HARNESS) (SEE PAGE 4-113)
LB-62 BOARD CN4601 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-97)
VF-141 BOARD CN4501 (THROUGH THE FP-151 FLEXIBLE) (SEE PAGE 4-93)
KP-009 BOARD CN301 (THROUGH THE DP-87 HARNESS) (SEE PAGE 4-86)
Q002,003 BACK LIGHT SWITCH
Q007 RN2107F(TPL3) SWITCH
BH001 LITHIUM BATTERY HOLDER
SP003 (SPEAKER)
S008 (PANEL OPEN/ CLOSE)
DIGITAL EFFECT
PICTURE EFFECT
MENU
TITLE
PB ZOOM
MEMORY
INDEX
DELETE
PLAY
MEMORY MIX
DATA CODE
END SEARCH
DISPLAY
NIGHT
INFINITY
AUTO
SUPER NIGHT SHOT
FOCUS
MAN
INFI
SIGNAL PATH
AUDIO SIGNAL
PB
VIDEO SIGNAL
CHROMA
REC

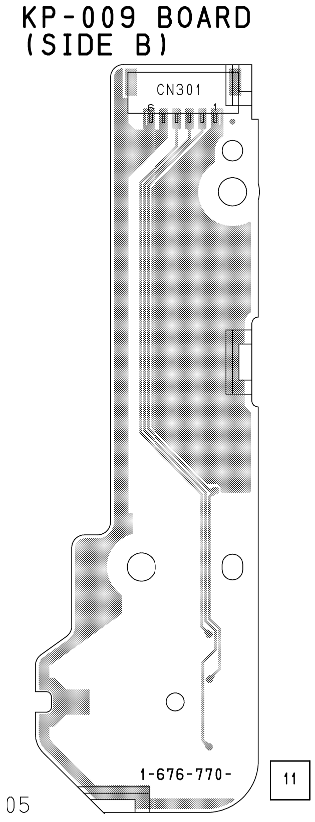
- CONTROL SWITCH BLOCK(MF-10000)is replaced as a block. so that this PRINTED WIRING BOARD is omitted.

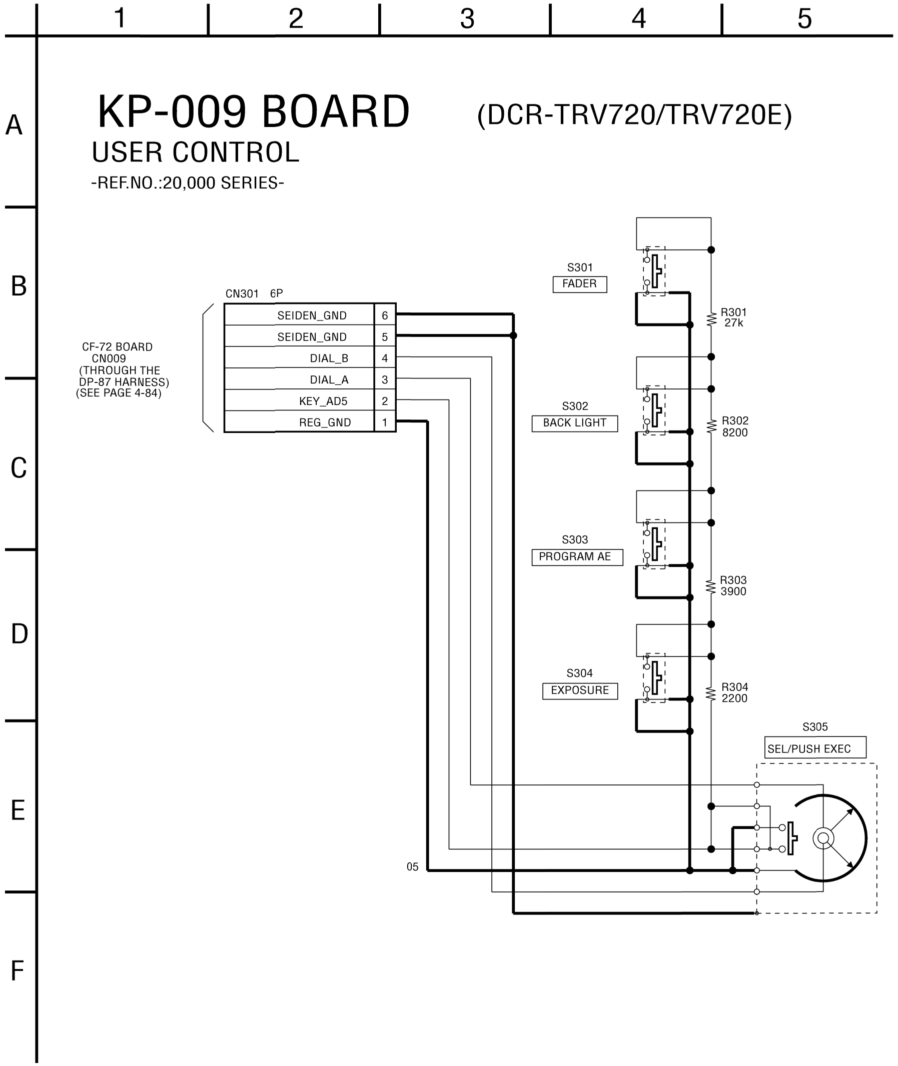
CONTROL SWITCH BLOCK/USER CONTROL
MF-10000 / CF-72

KP-009 (USER CONTROL) PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

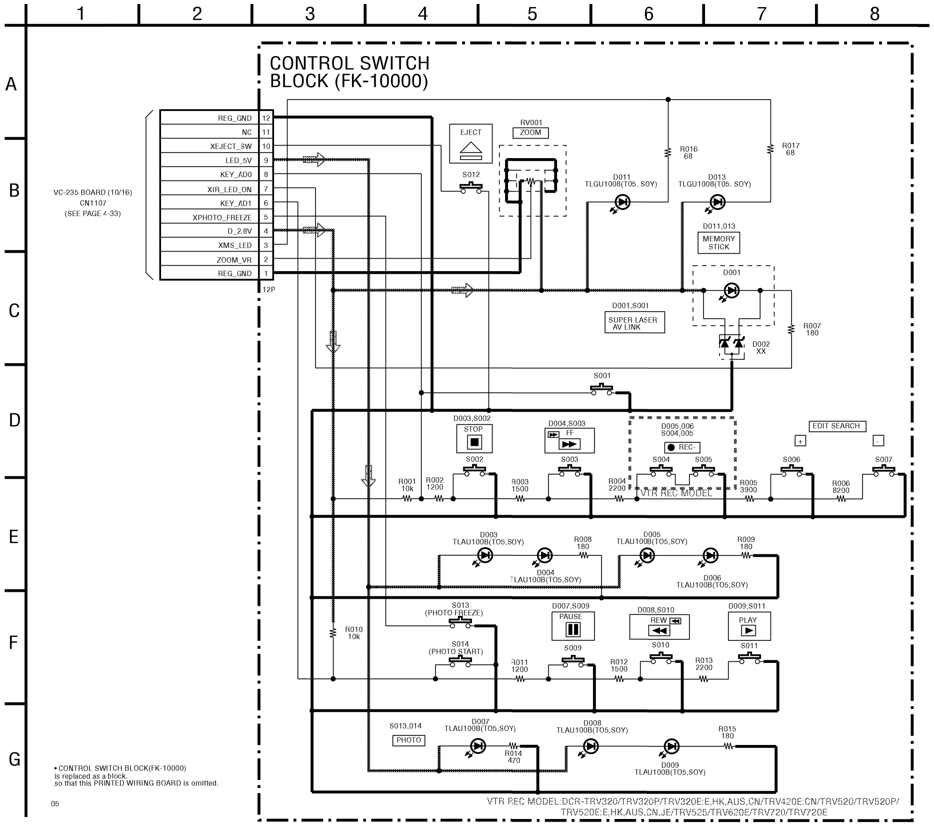
- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.


KP-009 BOARD
(SIDE A)
S301
FADER
R301
S302
BACK LIGHT
R302
S303
PROGRAM AE
R303
S304
EXPOSURE
R304
S305
SEL/PUSH EXEC
11
05
1-676-770-


KP-009 BOARD
(SIDE B)
CN301
6
1
1-676-770-
11
05


1
2
3
4
5
A
B
C
D
E
F
KP-009 BOARD
(DCR-TRV720/TRV720E)
USER CONTROL
-REF.NO.:20,000 SERIES-
CF-72 BOARD CN009 (THROUGH THE DP-87 HARNESS) (SEE PAGE 4-84)
CN301 6P
SEIDEN_GND 6
SEIDEN_GND 5
DIAL_B 4
DIAL_A 3
KEY_AD5 2
REG_GND 1
S301
FADER
R301 27k
S302
BACK LIGHT
R302 8200
S303
PROGRAM AE
R303 3900
S304
EXPOSURE
R304 2200
S305
SEL/PUSH EXEC
05

FK-10000 (CONTROL SWITCH BLOCK) SCHEMATIC DIAGRAM


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
CONTROL SWITCH
BLOCK (FK-10000)
VC-235 BOARD (10/16)
CN1107
(SEE PAGE 4-33)
REG_GND 12
NC 11
XEJECT_SW 10
LED_5V 9
KEY_AD0 8
XIR_LED_ON 7
KEY_AD1 6
XPHOTO_FREEZE 5
D_2.8V 4
XMS_LED 3
ZOOM_VR 2
REG_GND 1
12P
EJECT
S012
RV001
ZOOM
D011
TLGU1008(T05. SOY)
R016
68
D013
TLGU1008(T05. SOY)
R017
68
D011,013
MEMORY STICK
D001
D001,S001
SUPER LASER AV LINK
D002
XX
R007
180
S001
D003,S002
STOP
D004,S003
FF
D005,006
S004,005
REC
EDIT SEARCH
R001
10k
R002
1200
S002
R003
1500
S003
R004
2200
S004
S005
VTR REC MODEL
R005
3900
S006
R006
8200
S007
D003
TLAU100B(T05,SOY)
R008
180
D004
TLAU100B(T05,SOY)
D005
TLAU100B(T05,SOY)
R009
180
D006
TLAU100B(T05,SOY)
S013
(PHOTO FREEZE)
D007,S009
PAUSE
D008,S010
REW
D009,S011
PLAY
R010
10k
S014
(PHOTO START)
R011
1200
S009
R012
1500
S010
R013
2200
S011
S013,014
PHOTO
D007
TLAU100B(T05,SOY)
R014
470
D008
TLAU100B(T05,SOY)
D009
TLAU100B(T05,SOY)
R015
180
05

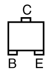
• CONTROL SWITCH BLOCK(FK-10000) is replaced as a block. so that this PRINTED WIRING BOARD is omitted.

VTR REC MODEL:DCR-TRV320/TRV320P/TRV320E:E,HK,AUS,CN/TRV420E:CN/TRV520/TRV520P/TRV520E:E,HK,AUS,CN,JE/TRV525/TRV620E/TRV720/TRV720E

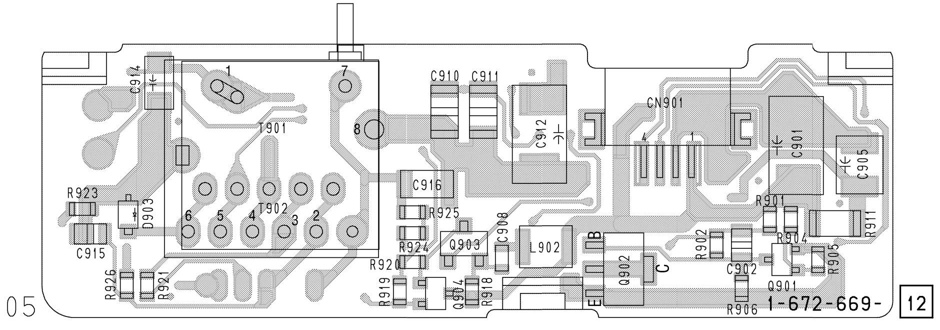
VF-129 (B/W EVF) PRINTED WIRING BOARD

– Ref. No.: VF-129 board; 20,000 series –

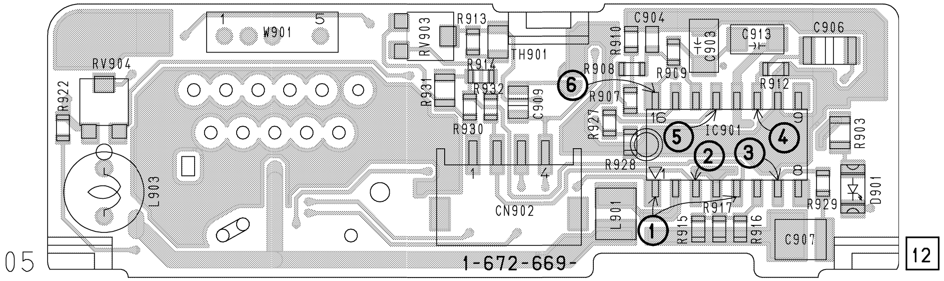
- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor



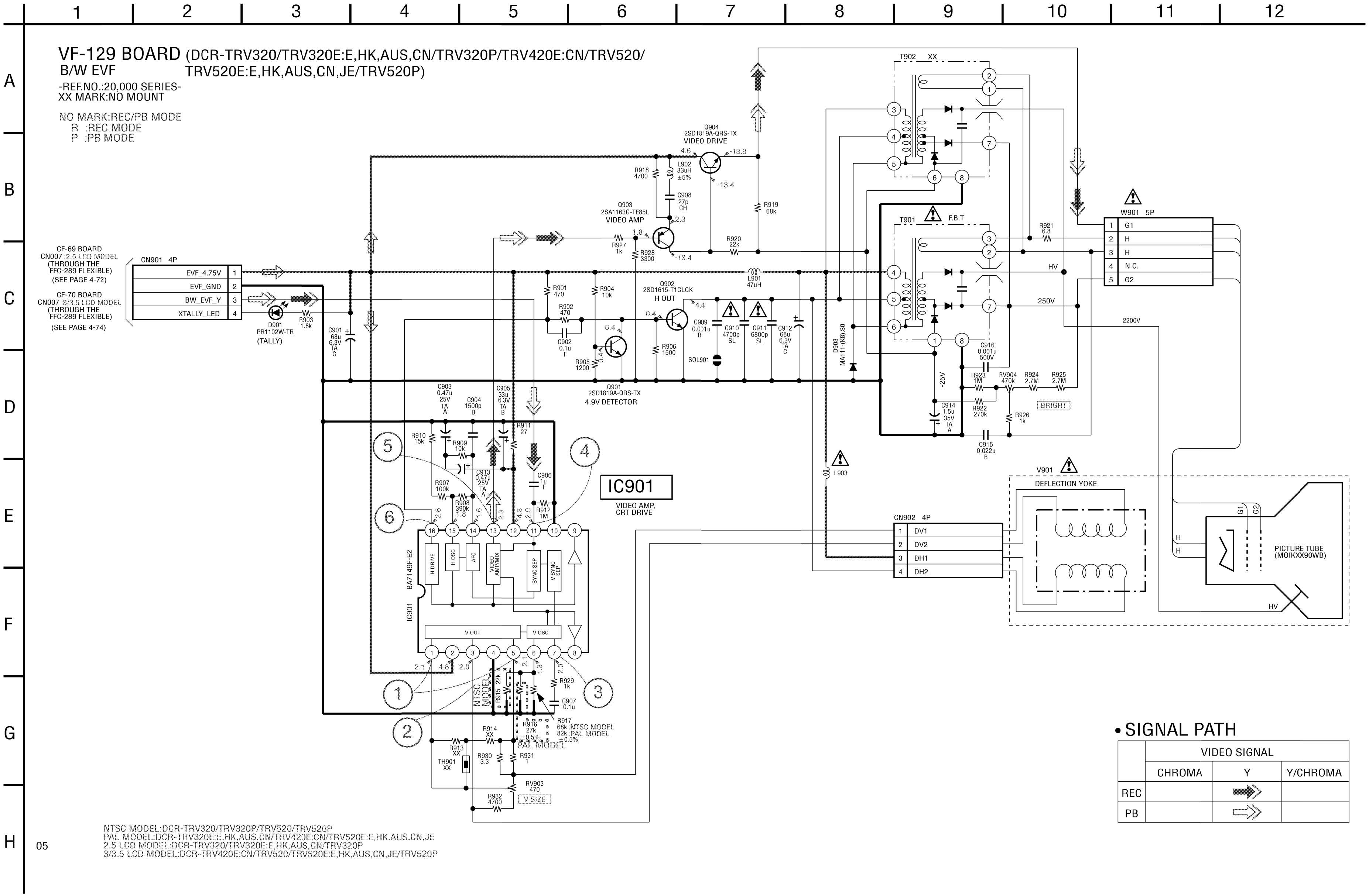
VF-129 BOARD(SIDE A)


C914
T901
1
7
8
C910
C911
C912
CN901
C901
C905
R923
D903
T902
6
5
4
3
2
C916
R925
C908
Q903
R924
L902
Q902
R902
R901
R904
R911
C915
R926
R921
R920
R919
Q904
R918
C902
R905
Q901
R906
1-672-669-
12
05

VF-129 BOARD(SIDE B)


W901
1
5
RV903
R913
C904
R910
C903
C913
C906
RV904
R914
TH901
R908
R909
R922
R931
R932
C909
R907
R912
R927
IC901
R903
R930
R928
L903
CN902
R929
D901
L901
R915
R917
R916
C907
1
2
3
4
5
6
16
9
8
1-672-669-
12
05

VF-129 (B/W EVF) SCHEMATIC DIAGRAM • See page 4-122 for waveforms.


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
VF-129 BOARD (DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P/TRV420E:CN/TRV520/
TRV520E:E,HK,AUS,CN,JE/TRV520P)
B/W EVF
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
R :REC MODE
P :PB MODE
CF-69 BOARD
CN007 :2.5 LCD MODEL
(THROUGH THE
FFC-289 FLEXIBLE)
(SEE PAGE 4-72)
CF-70 BOARD
CN007 3/3.5 LCD MODEL
(THROUGH THE
FFC-289 FLEXIBLE)
(SEE PAGE 4-74)
CN901 4P
EVF_4.75V
EVF_GND
BW_EVF_Y
XTALLY_LED
D901
PR1102W-TR
(TALLY)
R903
1.8k
C901
68u
6.3V
TA
C
Q904
2SD1819A-QRS-TX
VIDEO DRIVE
R918
4700
L902
33uH
±5%
C908
27p
CH
Q903
2SA1163G-TE85L
VIDEO AMP
R927
1k
R928
3300
R919
68k
R920
22k
L901
47uH
R901
470
R904
10k
R902
470
C902
0.1u
F
R905
1200
Q901
2SD1819A-QRS-TX
4.9V DETECTOR
Q902
2SD1615-T1GLGK
H OUT
R906
1500
C909
0.031u
B
SOL901
C910
4700p
SL
C911
6800p
SL
C912
68u
6.3V
TA
C
D903
MA111-(K8).SO
T902 XX
T901
F.B.T
R921
6.8
HV
250V
2200V
W901 5P
G1
H
H
N.C.
G2
C916
0.001u
500V
-25V
R923
1M
RV904
470k
R924
2.7M
R925
2.7M
BRIGHT
C914
1.5u
35V
TA
A
R922
270k
R926
1k
C915
0.022u
B
L903
V901
DEFLECTION YOKE
CN902 4P
DV1
DV2
DH1
DH2
PICTURE TUBE
(MOIKXX90WB)
C903
0.47u
25V
TA
A
C904
1500p
B
C905
33u
6.3V
TA
B
R911
27
R910
15k
R909
10k
C913
0.47u
25V
TA
A
R907
100k
R908
390k
C906
1u
F
R912
1M
IC901
VIDEO AMP.
CRT DRIVE
IC901
BA7149F-E2
H DRIVE
H OSC
AFC
VIDEO AMP/MIX
SYNC SEP
V SYNC SEP
V OUT
V OSC
R915 22k
NTSC MODEL
R929
1k
C907
0.1u
R917
68k :NTSC MODEL
82k :PAL MODEL
±0.5%
R916
27k
±0.5%
PAL MODEL
R914
XX
R913
XX
TH901
XX
R930
3.3
R931
1
RV903
470
V SIZE
R932
4700
05

NTSC MODEL:DCR-TRV320/TRV320P/TRV520/TRV520P
PAL MODEL:DCR-TRV320E:E,HK,AUS,CN/TRV420E:CN/TRV520E:E,HK,AUS,CN,JE
2.5 LCD MODEL:DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P
3/3.5 LCD MODEL:DCR-TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P

• SIGNAL PATH

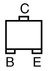
	VIDEO SIGNAL		
	CHROMA	Y	Y/CHROMA
REC		➡	
PB		⇨	

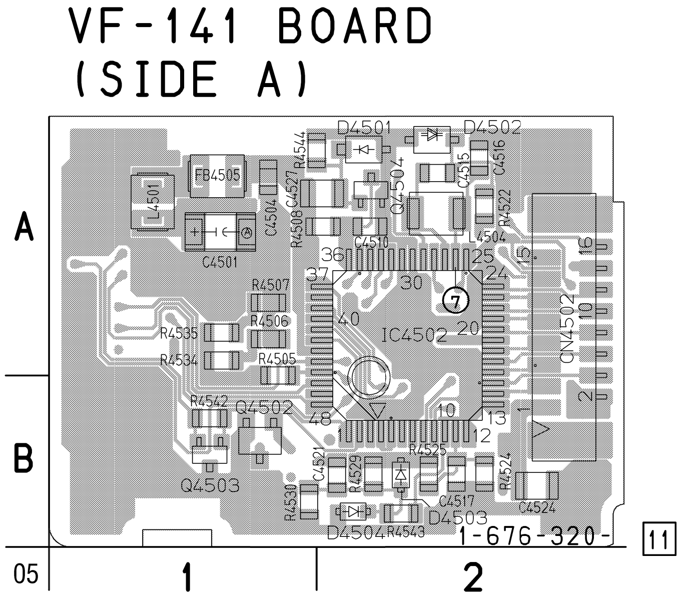
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

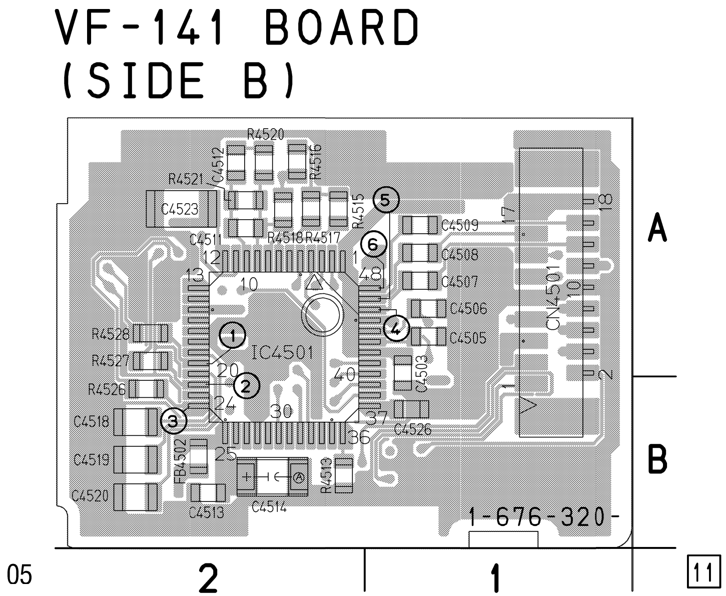
VF-141 (RGB DRIVER, TIMING GENERATOR) PRINTED WIRING BOARD

– Ref. No.: VF-141 board; 20,000 series –

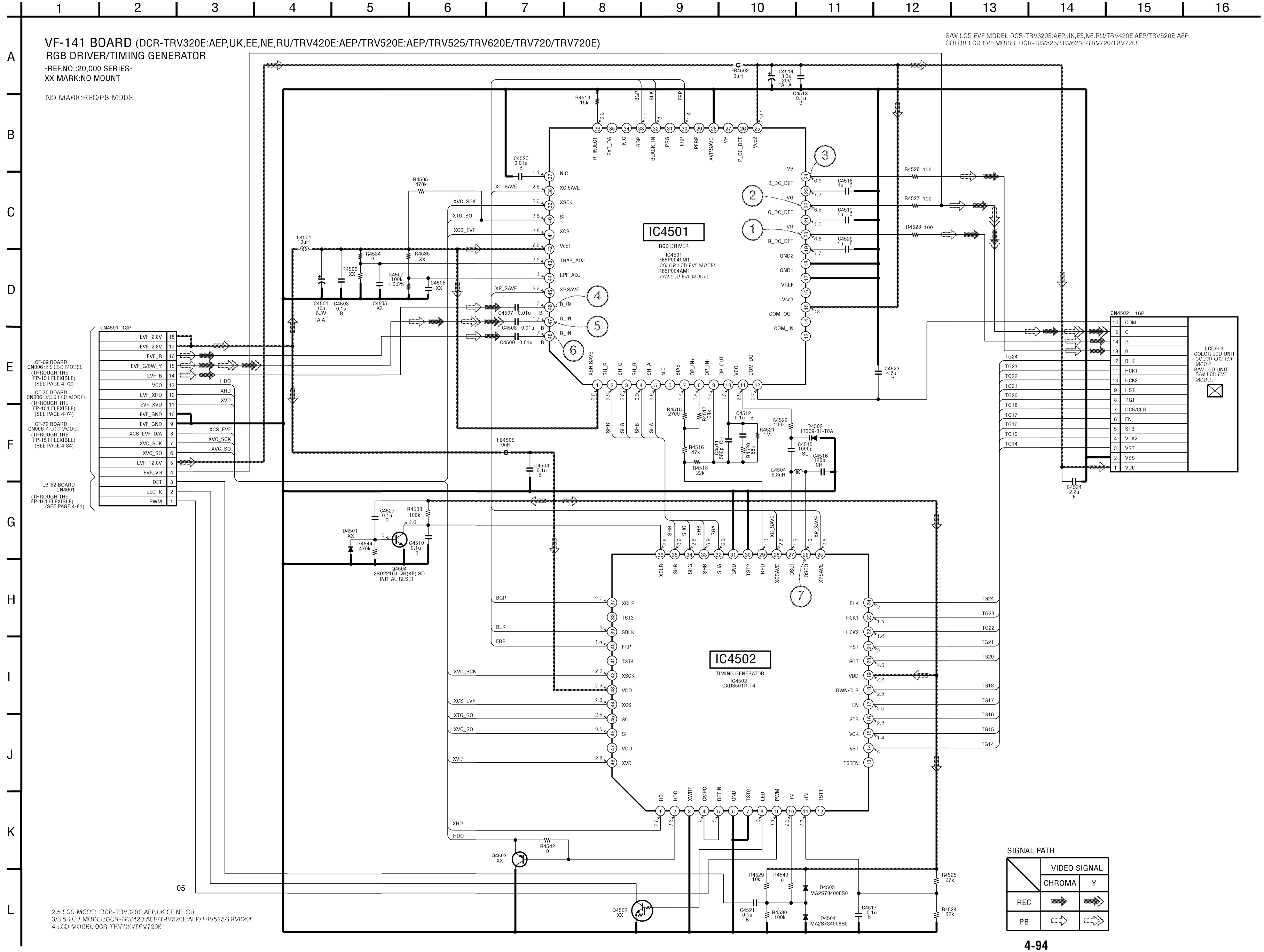
- **For Printed Wiring Board.**
- VF-141 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor




VF-141 BOARD
(SIDE A)
A
B
05
1
2
11
1-676-320-
IC4502
CN4502
D4501
D4502
D4503
D4504
FB4505
L4501
L4504
C4501
C4504
C4510
C4515
C4516
C4517
C4521
C4524
C4527
Q4502
Q4503
Q4504
R4505
R4506
R4507
R4508
R4522
R4524
R4525
R4529
R4530
R4534
R4535
R4542
R4543
R4544
7


VF-141 BOARD
(SIDE B)
A
B
05
2
1
11
1-676-320-
IC4501
CN4501
FB4502
C4503
C4505
C4506
C4507
C4508
C4509
C4511
C4512
C4513
C4514
C4518
C4519
C4520
C4523
C4526
R4513
R4515
R4516
R4517
R4518
R4520
R4521
R4526
R4527
R4528
1
2
3
4
5
6

VF-141 (RGB DRIVER, TIMING GENERATOR) SCHEMATIC DIAGRAM • See page 4-122 for waveforms.

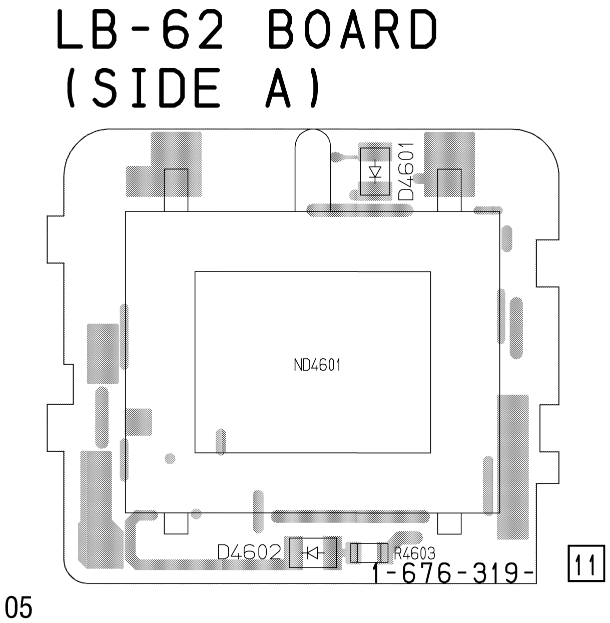

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K
L
VF-141 BOARD (DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP/TRV525/TRV620E/TRV720/TRV720E)
RGB DRIVER/TIMING GENERATOR
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
B/W LCD EVF MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP
COLOR LCD EVF MODEL:DCR-TRV525/TRV620E/TRV720/TRV720E
IC4501
RGB DRIVER
IC4501
RB5P0040M1
:COLOR LCD EVF MODEL
RB5P004AM1
:B/W LCD EVF MODEL
IC4502
TIMING GENERATOR
IC4502
CXD3501R-T4
Q4504
2SD2216J-QR(K8).SO
INITIAL RESET
Q4503
XX
Q4502
XX
D4501
XX
D4502
1T369-01-T8A
D4503
MA2S784008S0
D4504
MA2S784008S0
L4501
10uH
L4504
6.8uH
FB4502
0uH
FB4505
0uH
CN4501 18P
EVF_2.8V 18
EVF_2.8V 17
EVF_R 16
EVF_G/BW_Y 15
EVF_B 14
VCO 13
EVF_XHD 12
EVF_XVD 11
EVF_GND 10
EVF_GND 9
XCS_EVF_D/A 8
XVC_SCK 7
XVC_SO 6
EVF_12.0V 5
EVF_VG 4
DET 3
LED_K 2
PWM 1
CF-69 BOARD
CN006:2.5 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-72)
CF-70 BOARD
CN006:3/3.5 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-74)
CF-72 BOARD
CN006:4 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-84)
LB-62 BOARD
CN4601
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-81)
CN4502 16P
16 COM
15 G
14 R
13 B
12 BLK
11 HCK1
10 HCK2
9 HST
8 RGT
7 DCG/CLR
6 EN
5 STB
4 VCK2
3 VST
2 VSS
1 VDD
LCD903
COLOR LCD UNIT
:COLOR LCD EVF
MODEL
B/W LCD UNIT
:B/W LCD EVF
MODEL
HDO
XHD
XVD
XCS_EVF
XVC_SCK
XVC_SO
XC_SAVE
XP_SAVE
XTG_SO
BGP
BLK
FRP
TG24
TG23
TG22
TG21
TG20
TG18
TG17
TG16
TG15
TG14
05
2.5 LCD MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU
3/3.5 LCD MODEL:DCR-TRV420:AEP/TRV520E:AEP/TRV525/TRV620E
4 LCD MODEL:DCR-TRV720/TRV720E
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
REC
PB

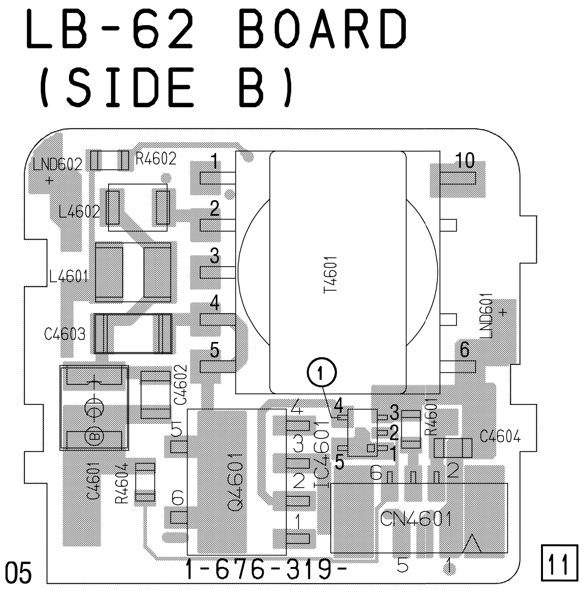
RGB DRIVER, TIMING GENERATOR
VF-141

LB-62 (BACK LIGHT) PRINTED WIRING BOARD

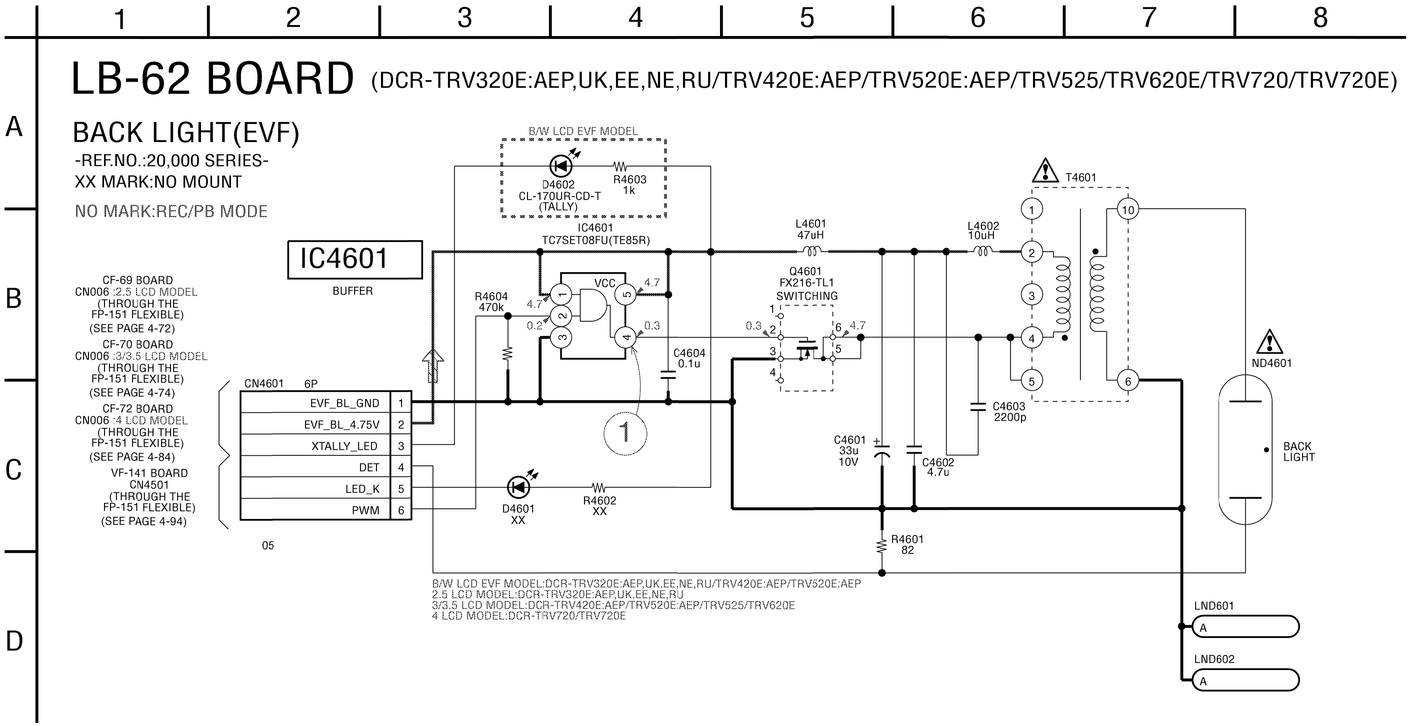
– Ref. No.: LB-62 board; 20,000 series –

- **For Printed Wiring Board.**
- LB-62 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.


LB-62 BOARD
(SIDE A)
D4601
ND4601
D4602
R4603
1-676-319-
11
05


LB-62 BOARD
(SIDE B)
LND602
R4602
L4602
L4601
C4603
C4602
C4601
R4604
Q4601
IC4601
T4601
LND601
R4601
C4604
CN4601
1
2
3
4
5
6
10
①
1-676-319-
11
05

LB-62 (BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-123 for waveform.

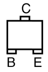

1
2
3
4
5
6
7
8
A
B
C
D
LB-62 BOARD (DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP/TRV525/TRV620E/TRV720/TRV720E)
BACK LIGHT(EVF)
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
IC4601
BUFFER
CF-69 BOARD
CN006 :2.5 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-72)
CF-70 BOARD
CN006 :3/3.5 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-74)
CF-72 BOARD
CN006 :4 LCD MODEL
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-84)
VF-141 BOARD
CN4501
(THROUGH THE
FP-151 FLEXIBLE)
(SEE PAGE 4-94)
CN4601 6P
EVF_BL_GND 1
EVF_BL_4.75V 2
XTALLY_LED 3
DET 4
LED_K 5
PWM 6
05
B/W LCD EVF MODEL
D4602
CL-170UR-CD-T
(TALLY)
R4603
1k
IC4601
TC7SET08FU(TE85R)
R4604
470k
VCC
4.7
0.2
4.7
0.3
C4604
0.1u
1
D4601
XX
R4602
XX
L4601
47uH
Q4601
FX216-TL1
SWITCHING
0.3
4.7
C4601
33u
10V
C4602
4.7u
R4601
82
L4602
10uH
T4601
C4603
2200p
ND4601
BACK
LIGHT
LND601
A
LND602
A
B/W LCD EVF MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP
2.5 LCD MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU
3/3.5 LCD MODEL:DCR-TRV420E:AEP/TRV520E:AEP/TRV525/TRV620E
4 LCD MODEL:DCR-TRV720/TRV720E

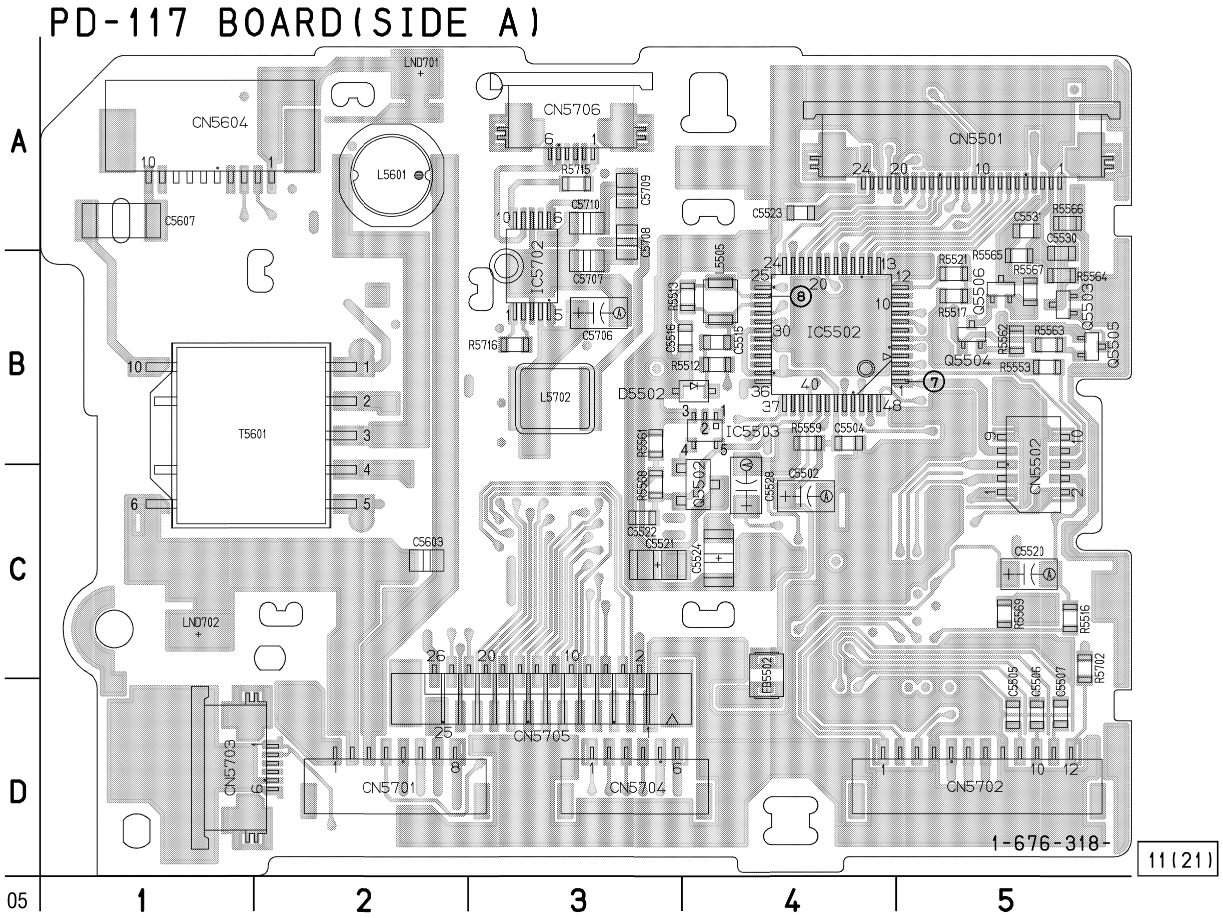
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

PD-117 (RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT) PRINTED WIRING BOARD

– Ref. No.: PD-117 board; 20,000 series –

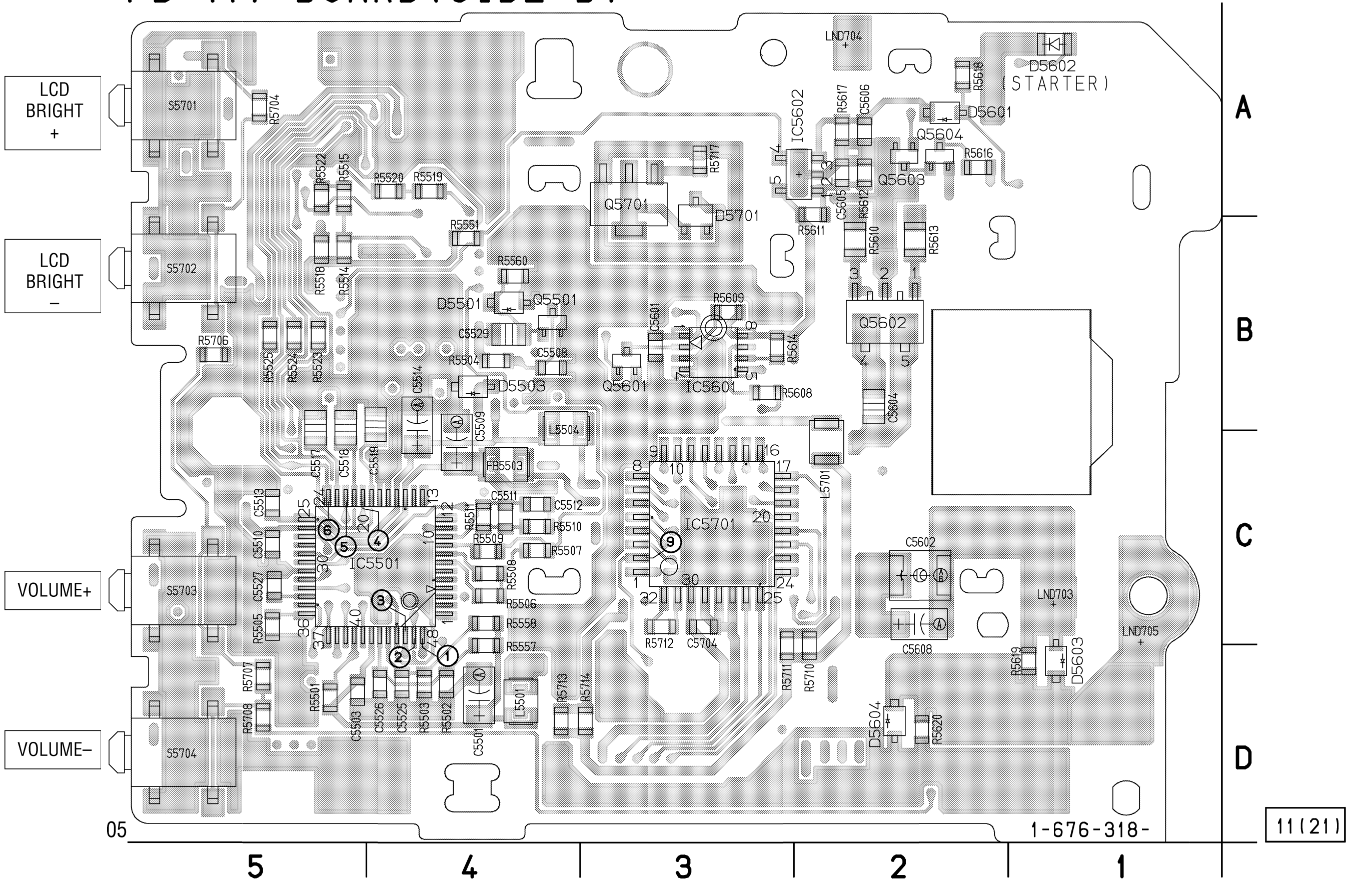
- **For Printed Wiring Board.**
- PD-117 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-127 for printed parts location.
- Chip transistor



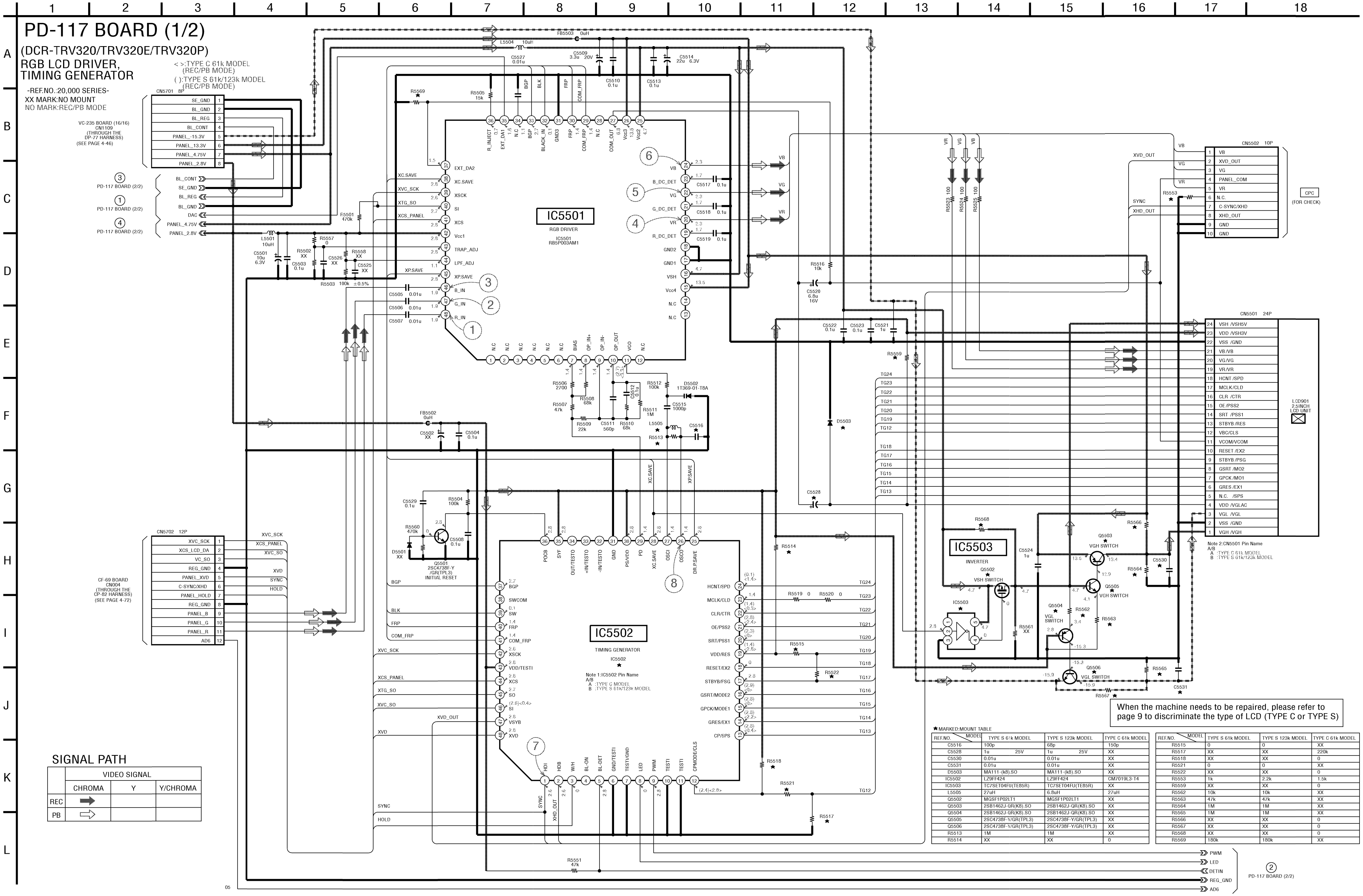

PD-117 BOARD(SIDE A)
A
B
C
D
05
1
2
3
4
5
CN5604
LND701
CN5706
CN5501
L5601
C5607
R5715
C5710
C5709
C5708
IC5702
C5707
C5706
R5716
L5702
T5601
C5603
LND702
C5523
L5505
R5513
C5516
C5515
R5512
D5502
IC5502
IC5503
⑧
⑦
R5521
R5565
R5566
C5531
C5530
R5567
R5564
Q5506
R5517
Q5503
R5562
R5563
Q5505
Q5504
R5553
R5559
C5504
R5561
R5558
Q5502
C5528
C5502
C5522
C5521
C5524
CN5502
C5520
R5569
R5516
R5702
C5505
C5506
C5507
FB5502
CN5703
CN5705
CN5701
CN5704
CN5702
1-676-318-
11(21)

RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT
PD-117

PD-117 BOARD(SIDE B)


LCD BRIGHT +
LCD BRIGHT –
VOLUME+
VOLUME–
S5701
S5702
S5703
S5704
R5704
R5706
R5707
R5708
LND704
D5602 (STARTER)
R5618
D5601
Q5604
R5616
Q5603
IC5602
R5617
C5606
C5605
R5612
R5611
R5610
R5613
Q5701
R5717
D5701
R5522
R5515
R5520
R5519
R5551
R5518
R5514
R5560
D5501
Q5501
C5529
R5504
C5508
D5503
R5525
R5524
R5523
C5514
C5509
L5504
FB5503
C5517
C5518
C5519
C5513
C5510
C5527
R5505
C5511
C5512
R5511
R5510
R5509
R5507
R5508
R5506
R5558
R5557
IC5501
R5501
C5503
C5526
C5525
R5503
R5502
C5501
L5501
R5713
R5714
C5601
R5609
IC5601
Q5601
R5614
R5608
Q5602
C5604
L5701
IC5701
R5712
C5704
R5711
R5710
C5602
C5608
LND703
LND705
R5619
D5603
D5604
R5620
05
1-676-318-
11(21)
A
B
C
D
5
4
3
2
1

PD-117 (RGB LCD DRIVER, TIMING GENERATOR) SCHEMATIC DIAGRAM • See page 4-99 for PD-117 printed wiring board. • See page 4-123 for waveforms.


PD-117 BOARD (1/2)
(DCR-TRV320/TRV320E/TRV320P)
RGB LCD DRIVER,
TIMING GENERATOR
< >:TYPE C 61k MODEL (REC/PB MODE)
( ):TYPE S 61k/123k MODEL (REC/PB MODE)
-REF.NO. 20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
CN5701 8P
SE_GND
BL_GND
BL_REG
BL_CONT
PANEL_-15.3V
PANEL_13.3V
PANEL_4.75V
PANEL_2.8V
VC-235 BOARD (16/16) CN1109 (THROUGH THE DP-77 HARNESS) (SEE PAGE 4-46)
PD-117 BOARD (2/2)
IC5501
RGB DRIVER
IC5501 RB5P003AM1
IC5502
TIMING GENERATOR
Note 1:IC5502 Pin Name A/B A :TYPE C MODEL B :TYPE S 61k/123k MODEL
IC5503
INVERTER
Q5501 2SC4738F-Y /GR(TPL3) INITIAL RESET
Q5502 VSH SWITCH
Q5503 VGH SWITCH
Q5504 VGL SWITCH
Q5505 VCH SWITCH
Q5506 VGL SWITCH
CN5702 12P
XVC_SCK
XCS_LCD_DA
VC_SO
REG_GND
PANEL_XVD
C-SYNC/XHD
PANEL_HOLD
REG_GND
PANEL_B
PANEL_G
PANEL_R
AD6
CF-69 BOARD CN004 (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-72)
CN5502 10P
VB
XVD_OUT
VG
PANEL_COM
VR
N.C.
C-SYNC/XHD
XHD_OUT
GND
GND
CPC (FOR CHECK)
CN5501 24P
VSH /VSH5V
VDD /VSH3V
VSS /GND
VB/VB
VG/VG
VR/VR
HCNT /SPD
MCLK/CLD
CLR /CTR
OE /PSS2
SRT /PSS1
STBYB /RES
VBC/CLS
VCOM/VCOM
RESET /EX2
STBYB/PSG
GSRT /MO2
GPCK /MO1
GRES /EX1
N.C. /SPS
VDD /VGLAC
VGL /VGL
VSS /GND
VGH /VGH
Note 2:CN5501 Pin Name A/B A :TYPE C 61k MODEL B :TYPE S 61k/123k MODEL
LCD901 2.5INCH LCD UNIT
PWM
LED
DETIN
REG_GND
AD6
PD-117 BOARD (2/2)
SIGNAL PATH
VIDEO SIGNAL
CHROMA
Y
Y/CHROMA
REC
PB

When the machine needs to be repaired, please refer to page 9 to discriminate the type of LCD (TYPE C or TYPE S)

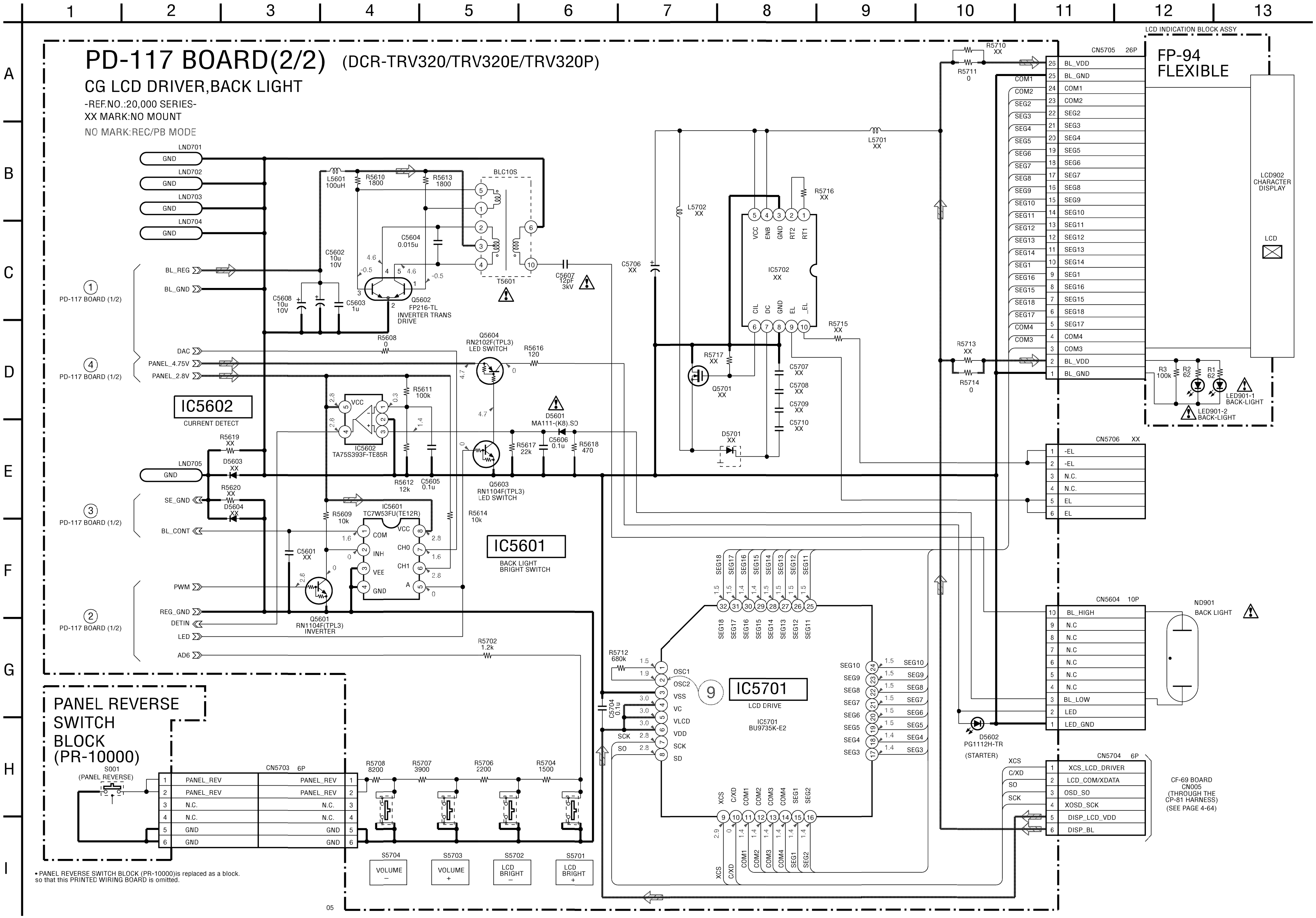
★MARKED:MOUNT TABLE

REF.NO. \ MODEL	TYPE S 61k MODEL	TYPE S 123k MODEL	TYPE C 61k MODEL
C5516	100p	68p	150p
C5528	1u 25V	1u 25V	XX
C5530	0.01u	0.01u	XX
C5531	0.01u	0.01u	XX
D5503	MA111-(k8).SO	MA111-(k8).SO	XX
IC5502	LZ9FF424	LZ9FF424	CM7019L3-T4
IC5503	TC7SET04FU(TE85R)	TC7SET04FU(TE85R)	XX
L5505	27uH	6.8uH	27uH
Q5502	MGSF1P02LT1	MGSF1P02LT1	XX
Q5503	2SB1462J-QR(K8).SO	2SB1462J-QR(K8).SO	XX
Q5504	2SB1462J-QR(K8).SO	2SB1462J-QR(K8).SO	XX
Q5505	2SC4738F-Y/GR(TPL3)	2SC4738F-Y/GR(TPL3)	XX
Q5506	2SC4738F-Y/GR(TPL3)	2SC4738F-Y/GR(TPL3)	XX
R5513	1M	1M	XX
R5514	XX	XX	0

REF.NO. \ MODEL	TYPE S 61k MODEL	TYPE S 123k MODEL	TYPE C 61k MODEL
R5515	0	0	XX
R5517	XX	XX	220k
R5518	XX	XX	0
R5521	0	0	XX
R5522	XX	XX	0
R5553	1k	2.2k	1.5k
R5559	XX	XX	0
R5562	10k	10k	XX
R5563	47k	47k	XX
R5564	1M	1M	XX
R5565	1M	1M	XX
R5566	XX	XX	0
R5567	XX	XX	0
R5568	XX	XX	0
R5569	180k	180k	XX

RGB LCD DRIVER, TIMING GENERATOR
PD-117 (1/2)

PR-10000 (PANEL REVERSE SWITCH BLOCK), PD-117 (CG LCD DRIVER, BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-99 for PD-117 printed wiring board. • See page 4-123 for waveforms.


1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I
PD-117 BOARD(2/2) (DCR-TRV320/TRV320E/TRV320P)
CG LCD DRIVER,BACK LIGHT
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
LND701 GND
LND702 GND
LND703 GND
LND704 GND
LND705 GND
① PD-117 BOARD (1/2)
BL_REG
BL_GND
④ PD-117 BOARD (1/2)
DAC
PANEL_4.75V
PANEL_2.8V
③ PD-117 BOARD (1/2)
SE_GND
BL_CONT
② PD-117 BOARD (1/2)
PWM
REG_GND
DETIN
LED
AD6
L5601 100uH
R5610 1800
R5613 1800
BLC10S
T5601
C5602 10u 10V
C5604 0.015u
C5607 12pF 3kV
C5608 10u 10V
C5603 1u
Q5602 FP216-TL INVERTER TRANS DRIVE
R5608 0
Q5604 RN2102F(TPL3) LED SWITCH
R5616 120
IC5602
CURRENT DETECT
R5611 100k
IC5602 TA75S393F-TE85R
R5619 XX
D5603 XX
R5620 XX
D5604 XX
R5612 12k
C5605 0.1u
D5601 MA111-(K8).SO
R5617 22k
C5606 0.1u
R5618 470
Q5603 RN1104F(TPL3) LED SWITCH
R5609 10k
IC5601 TC7W53FU(TE12R)
COM INH VEE GND VCC CH0 CH1 A
C5601 XX
Q5601 RN1104F(TPL3) INVERTER
R5614 10k
IC5601
BACK LIGHT BRIGHT SWITCH
R5702 1.2k
C5706 XX
L5702 XX
IC5702 XX
VCC ENB GND RT2 RT1
CIL DC GND EL EL
R5716 XX
R5715 XX
R5717 XX
Q5701 XX
C5707 XX
C5708 XX
C5709 XX
C5710 XX
D5701 XX
L5701 XX
R5710 XX
R5711 0
R5713 XX
R5714 0
CN5705 26P
BL_VDD BL_GND COM1 COM2 SEG2 SEG3 SEG4 SEG5 SEG6 SEG7 SEG8 SEG9 SEG10 SEG11 SEG12 SEG13 SEG1 SEG16 SEG15 SEG18 SEG17 COM4 COM3 BL_VDD BL_GND
LCD INDICATION BLOCK ASSY
FP-94 FLEXIBLE
LCD902 CHARACTER DISPLAY
LCD
R3 100k
R2 62
R1 62
LED901-1 BACK-LIGHT
LED901-2 BACK-LIGHT
CN5706 XX
-EL -EL N.C. N.C. EL EL
CN5604 10P
BL_HIGH N.C N.C N.C N.C N.C N.C BL_LOW LED LED_GND
ND901 BACK LIGHT
D5602 PG1112H-TR (STARTER)
CN5704 6P
XCS_LCD_DRIVER LCD_COM/XDATA OSD_SO XOSD_SCK DISP_LCD_VDD DISP_BL
XCS C/XD SO SCK
CF-69 BOARD CN005 (THROUGH THE CP-81 HARNESS) (SEE PAGE 4-64)
IC5701
LCD DRIVE
IC5701 BU9735K-E2
OSC1 OSC2 VSS VC VLCD VDD SCK SD
R5712 680k
C5704 0.1u
⑨
XCS C/XD COM1 COM2 COM3 COM4 SEG1 SEG2
SEG18 SEG17 SEG16 SEG15 SEG14 SEG13 SEG12 SEG11
SEG10 SEG9 SEG8 SEG7 SEG6 SEG5 SEG4 SEG3
PANEL REVERSE SWITCH BLOCK (PR-10000)
S001 (PANEL REVERSE)
CN5703 6P
PANEL_REV PANEL_REV N.C. N.C. GND GND
R5708 8200
R5707 3900
R5706 2200
R5704 1500
S5704 VOLUME –
S5703 VOLUME +
S5702 LCD BRIGHT –
S5701 LCD BRIGHT +
05

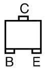
• PANEL REVERSE SWITCH BLOCK (PR-10000)is replaced as a block.
so that this PRINTED WIRING BOARD is omitted.

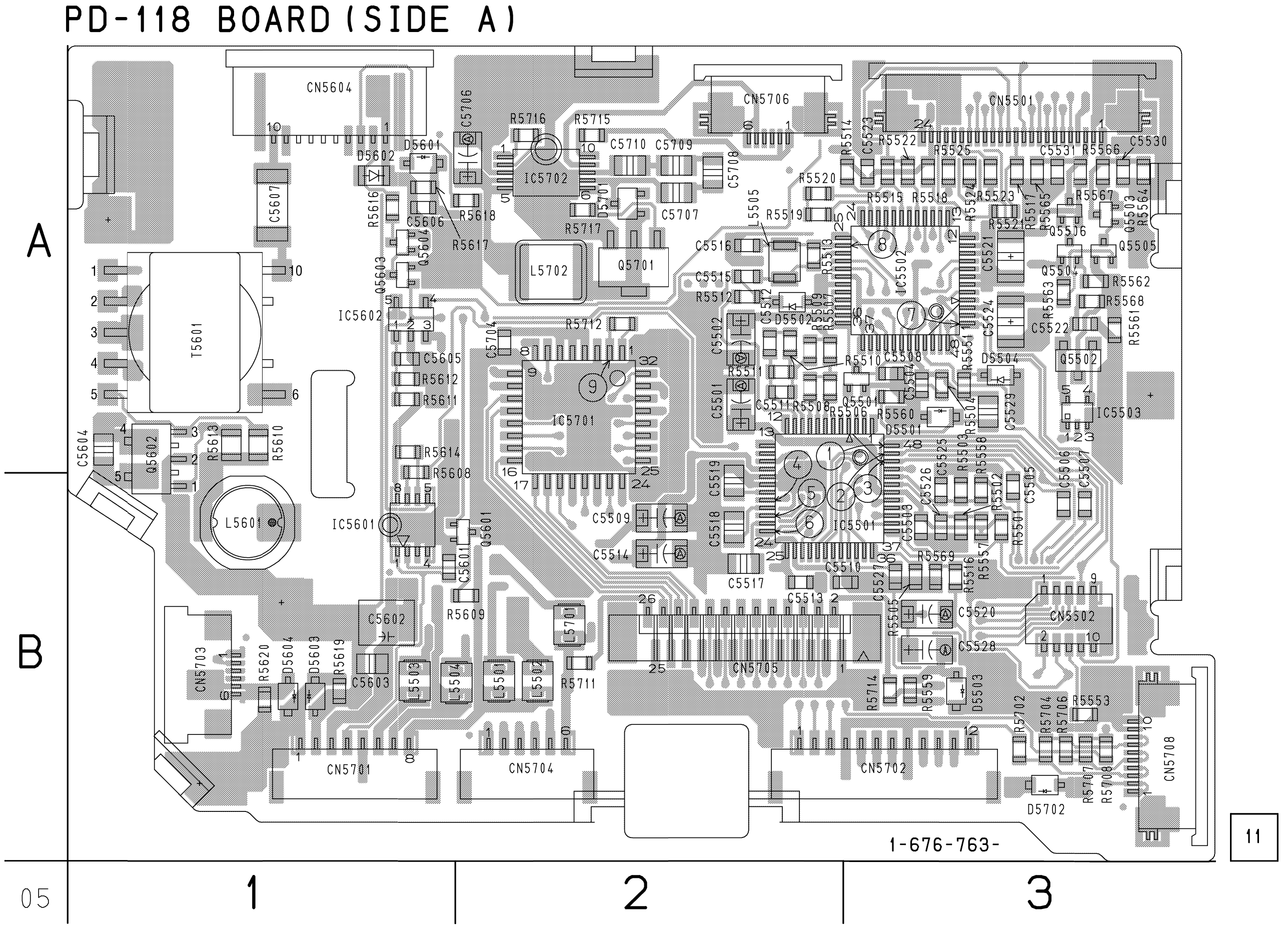
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

PD-118 (RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT) PRINTED WIRING BOARD

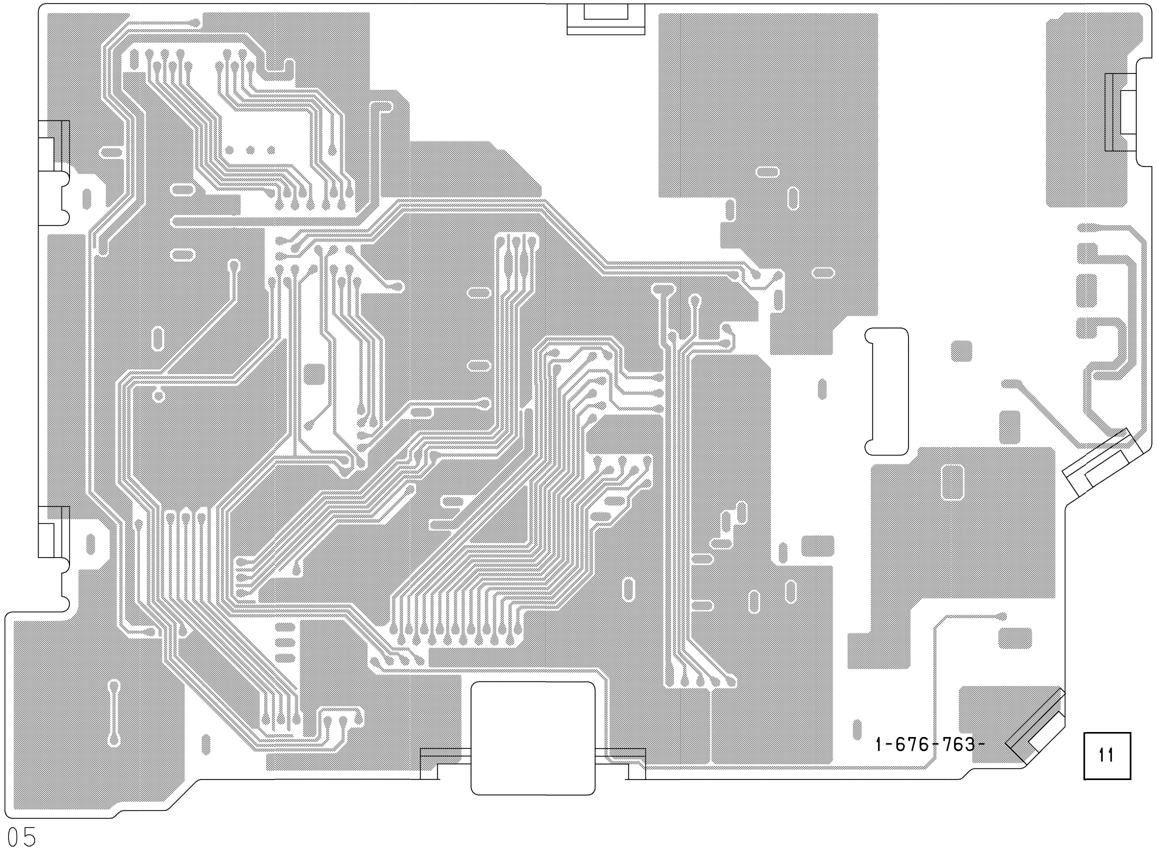
– Ref. No.: PD-118 board; 20,000 series –

- **For Printed Wiring Board.**
- PD-118 board is four-layer print board. However, the patterns of layers 2 to 3 have not been included in the diagram.
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- See page 4-128 for printed parts location.
- PD-118 board (SIDE B) is not mounted.
- Chip transistor




PD-118 BOARD (SIDE A)
A
B
1
2
3
05
11
1-676-763-
CN5604
CN5706
CN5501
T5601
L5601
L5702
Q5701
IC5702
IC5701
IC5502
IC5501
IC5503
IC5601
IC5602
Q5601
Q5602
Q5603
Q5604
Q5501
Q5502
Q5503
Q5504
Q5505
Q5506
D5501
D5502
D5503
D5504
D5601
D5602
D5603
D5604
D5701
D5702
CN5701
CN5702
CN5703
CN5704
CN5705
CN5708
CN5502
C5602
C5603
C5604
C5605
C5606
C5607
C5706
C5707
C5708
C5709
C5710
C5501
C5502
C5505
C5506
C5507
C5508
C5509
C5510
C5511
C5512
C5513
C5514
C5515
C5516
C5517
C5518
C5519
C5520
C5521
C5522
C5523
C5524
C5525
C5526
C5528
C5529
C5530
C5531
L5501
L5502
L5503
L5504
L5505
L5701
R5608
R5609
R5610
R5611
R5612
R5613
R5614
R5616
R5617
R5618
R5619
R5620
R5711
R5712
R5714
R5715
R5716
R5717
R5702
R5704
R5706
R5707
R5708
R5501
R5502
R5503
R5504
R5505
R5506
R5507
R5508
R5509
R5510
R5511
R5512
R5513
R5514
R5515
R5516
R5517
R5518
R5519
R5520
R5521
R5522
R5523
R5524
R5525
R5526
R5553
R5557
R5558
R5559
R5560
R5561
R5562
R5563
R5564
R5565
R5566
R5567
R5568
R5569

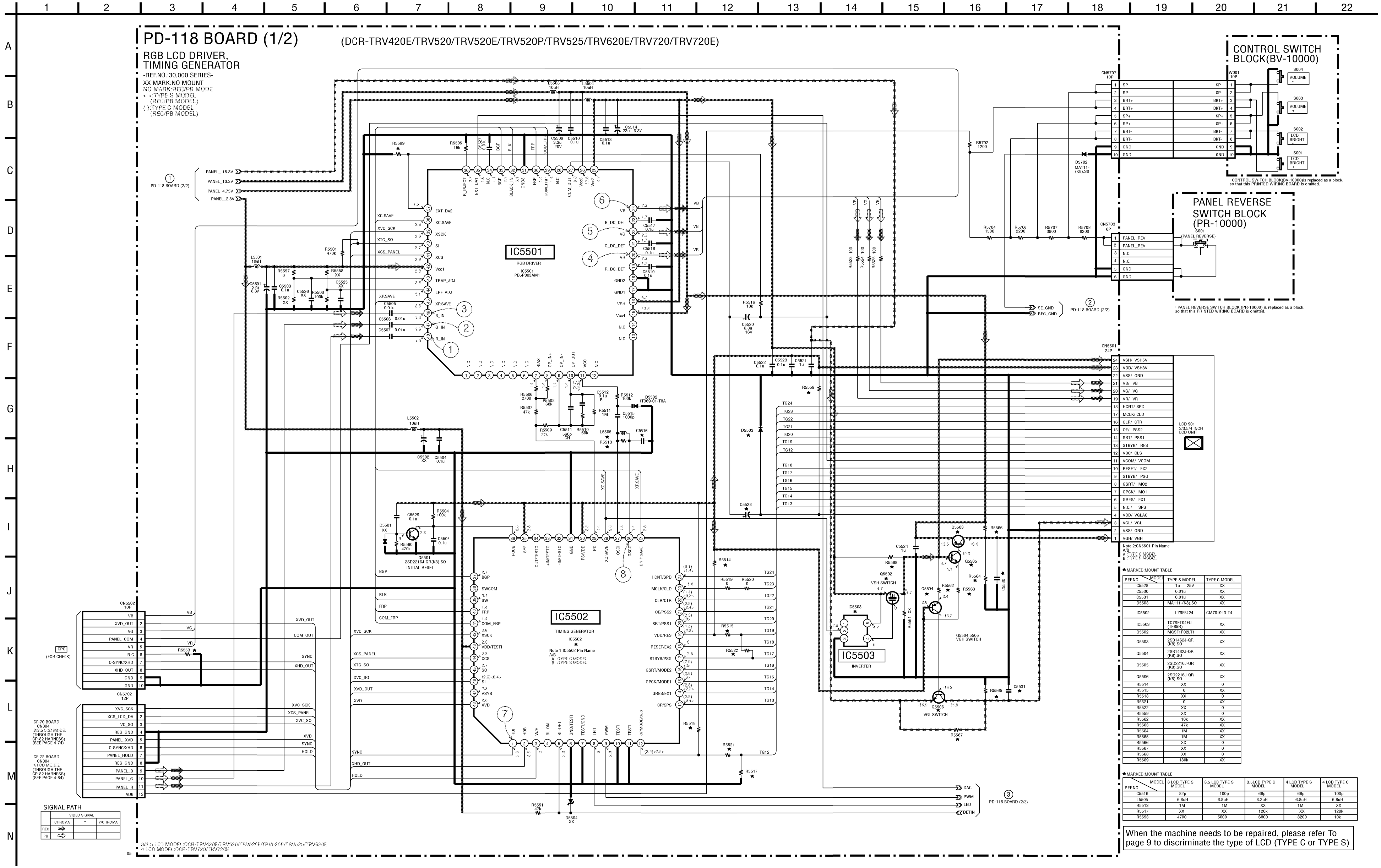
PD-118 BOARD (SIDE B)



RGB/CG LCD DRIVER, TIMING GENERATOR, BACK LIGHT
PD-118

PD-118 (RGB LCD DRIVER, TIMING GENERATOR), BV-10000 (CONTROL SWITCH BLOCK), PR-10000 (PANEL REVERSE SWITCH BLOCK) SCHEMATIC DIAGRAM

• See page 4-107 for PD-118 printed wiring board. • See page 4-123 for waveforms.


PD-118 BOARD (1/2)
(DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E)
RGB LCD DRIVER, TIMING GENERATOR
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
< >:TYPE S MODEL (REC/PB MODEL)
( ):TYPE C MODEL (REC/PB MODEL)
IC5501 RGB DRIVER IC5501 PBSP003AM1
IC5502 TIMING GENERATOR IC5502
Note 1:IC5502 Pin Name A/B A :TYPE C MODEL B :TYPE S MODEL
IC5503 INVERTER
Q5501 2SD2216J-QR(K8).SO INITIAL RESET
Q5502 VSH SWITCH
Q5504,5505 VGH SWITCH
Q5506 VGL SWITCH
CONTROL SWITCH BLOCK(BV-10000)
S004 VOLUME -
S003 VOLUME +
S002 LCD BRIGHT -
S001 LCD BRIGHT +
· CONTROL SWITCH BLOCK(BV-10000)is replaced as a block, so that this PRINTED WIRING BOARD is omitted.
PANEL REVERSE SWITCH BLOCK (PR-10000)
S001 (PANEL REVERSE)
· PANEL REVERSE SWITCH BLOCK (PR-10000) is replaced as a block, so that this PRINTED WIRING BOARD is omitted.
CN5707 10P
CN5703 6P
CN5501 24P
CN5502 10P
CN5702 12P
LCD 901 3/3.5/4 INCH LCD UNIT
CF-70 BOARD CN004 3/3.5 LCD MODEL (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-74)
CF-72 BOARD CN004 4 LCD MODEL (THROUGH THE CP-82 HARNESS) (SEE PAGE 4-84)
CPC (FOR CHECK)
Note 2:CN5501 Pin Name A/B A :TYPE C MODEL B :TYPE S MODEL
PD-118 BOARD (2/2)
SIGNAL PATH
VIDEO SIGNAL
CHROMA Y Y/CHROMA
REC PB
3/3.5 LCD MODEL:DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E
4 LCD MODEL:DCR-TRV720/TRV720E

★MARKED:MOUNT TABLE

REF.NO. \ MODEL	TYPE S MODEL	TYPE C MODEL
C5528	1u 25V	XX
C5530	0.01u	XX
C5531	0.01u	XX
D5503	MA111-(K8).SO	XX
IC5502	LZ9FF424	CM7019L3-T4
IC5503	TC7SET04FU (TE85R)	XX
Q5502	MGSF1P02LT1	XX
Q5503	2SB1462J-QR (K8).SO	XX
Q5504	2SB1462J-QR (K8).SO	XX
Q5505	2SD2216J-QR (K8).SO	XX
Q5506	2SD2216J-QR (K8).SO	XX
R5514	XX	0
R5515	0	XX
R5518	XX	0
R5521	0	XX
R5522	XX	0
R5559	XX	0
R5562	10k	XX
R5563	47k	XX
R5564	1M	XX
R5565	1M	XX
R5566	XX	0
R5567	XX	0
R5568	XX	0
R5569	180k	XX

★MARKED:MOUNT TABLE

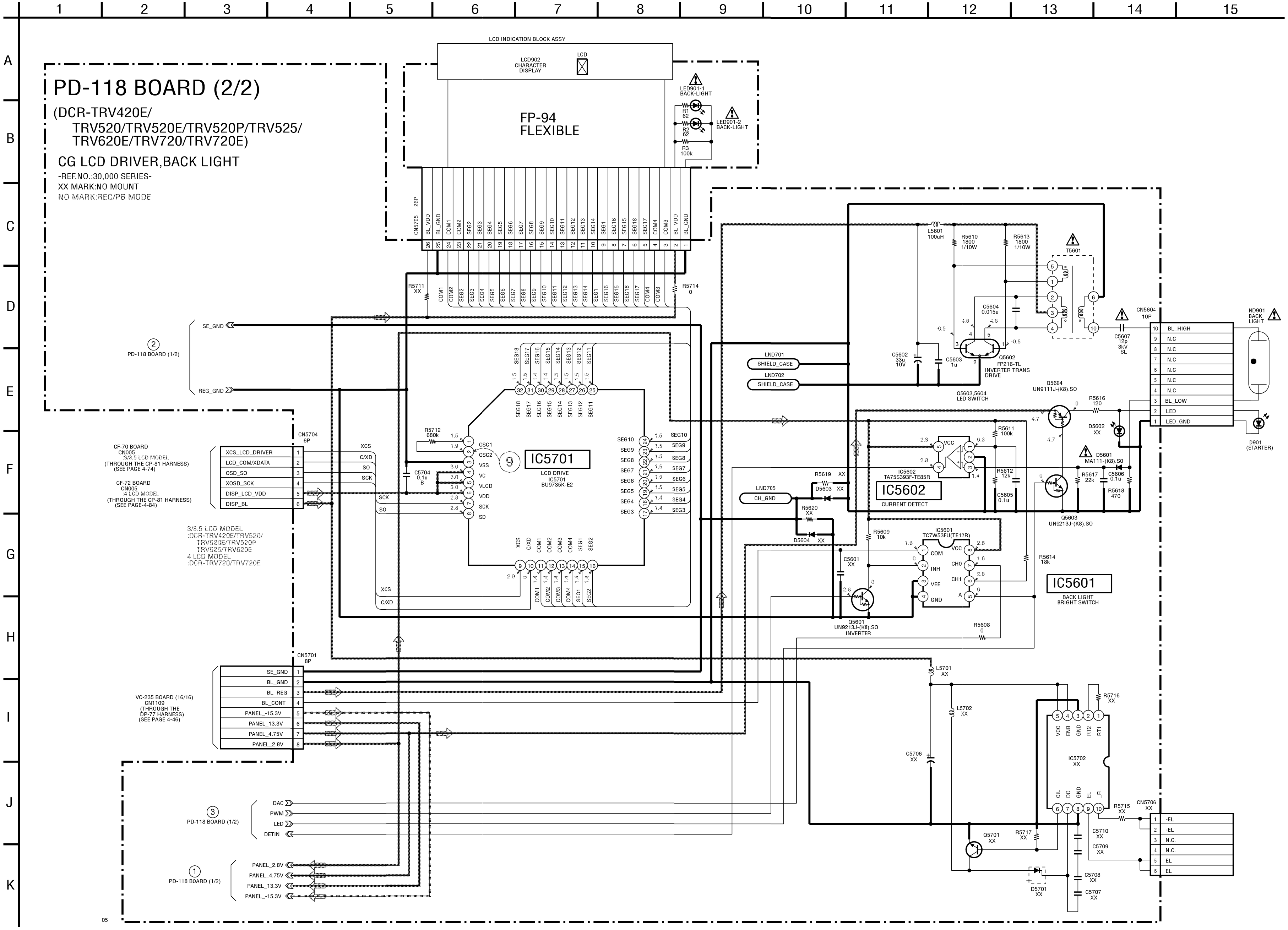
REF.NO. \ MODEL	3 LCD TYPE S MODEL	3.5 LCD TYPE S MODEL	3.5LCD TYPE C MODEL	4 LCD TYPE S MODEL	4 LCD TYPE C MODEL
C5516	82p	100p	68p	68p	100p
L5505	6.8uH	6.8uH	8.2uH	6.8uH	6.8uH
R5513	1M	1M	XX	1M	XX
R5517	XX	XX	120k	XX	120k
R5553	4700	5600	6800	8200	10k

When the machine needs to be repaired, please refer To page 9 to discriminate the type of LCD (TYPE C or TYPE S)

RGB LCD DRIVER, TIMING GENERATOR/CONTROL SWITCH BLOCK/PANEL REVERSE SWITCH BLOCK

PD-118 (1/2) BV-10000 PR-10000

PR-10000 (PANEL REVERSE SWITCH BLOCK), PD-118 (CG LCD DRIVER, BACK LIGHT) SCHEMATIC DIAGRAM • See page 4-107 for PD-118 printed wiring board. • See page 4-123 for waveforms.


PD-118 BOARD (2/2)
(DCR-TRV420E/
TRV520/TRV520E/TRV520P/TRV525/
TRV620E/TRV720/TRV720E)
CG LCD DRIVER,BACK LIGHT
-REF.NO.:30,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
LCD INDICATION BLOCK ASSY
LCD902 CHARACTER DISPLAY
FP-94 FLEXIBLE
LED901-1 BACK-LIGHT
LED901-2 BACK-LIGHT
CN5705 26P
IC5701 LCD DRIVE BU9735K-E2
IC5602 TA75S393F-TE85R CURRENT DETECT
IC5601 TC7W53FU(TE12R) BACK LIGHT BRIGHT SWITCH
IC5702
Q5602 FP216-TL INVERTER TRANS DRIVE
Q5603,5604 LED SWITCH
Q5601 UN9213J-(K8).SO INVERTER
T5601
CN5604 10P
ND901 BACK LIGHT
D901 (STARTER)
CN5704 6P
CF-70 BOARD CN005
CF-72 BOARD CN005
CN5701 8P
VC-235 BOARD (16/16) CN1109
CN5706 XX
PD-118 BOARD (1/2)
3/3.5 LCD MODEL
4 LCD MODEL

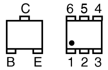
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

CG LCD DRIVER, BACK LIGHT
PD-118 (2/2)

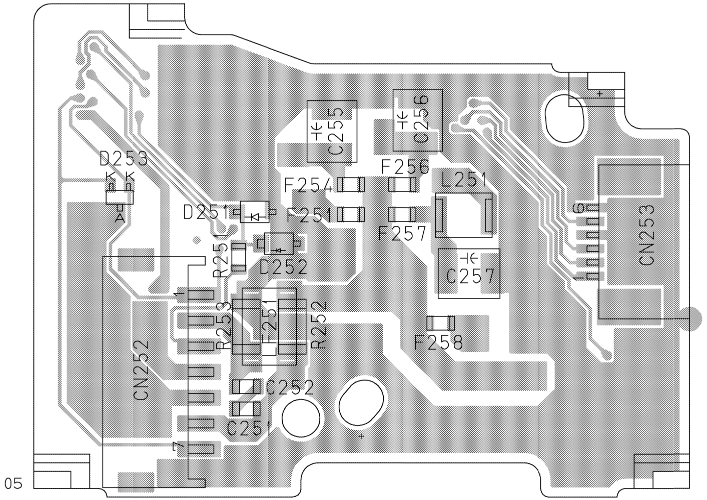
FU-138/142/144 (DC IN) PRINTED WIRING BOARD

– Ref. No.: FU-138/142/144 board; 20,000 series –

- **For Printed Wiring Board.**
- There are few cases that the part isn't mounted in this model is printed on this diagram.
- Chip transistor



FU-138/142/144 BOARD (SIDE A)

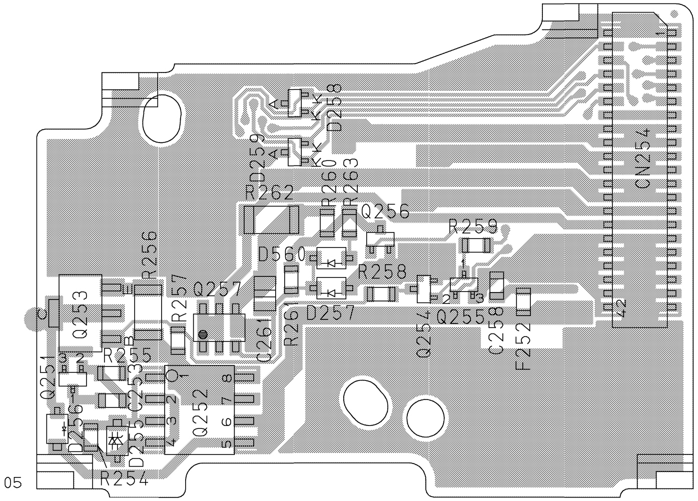

D253
K K
A
D251
F254
F251
C255
C256
F256
L251
F257
C257
6
1
CN253
R251
D252
1
R253
F251
R252
F258
CN252
C252
C251
7
+
05

FU-138:1-676-775- 12(22)

FU-142:1-676-761- 11(21)

FU-144:1-676-768- 11

FU-138/142/144 BOARD (SIDE B)

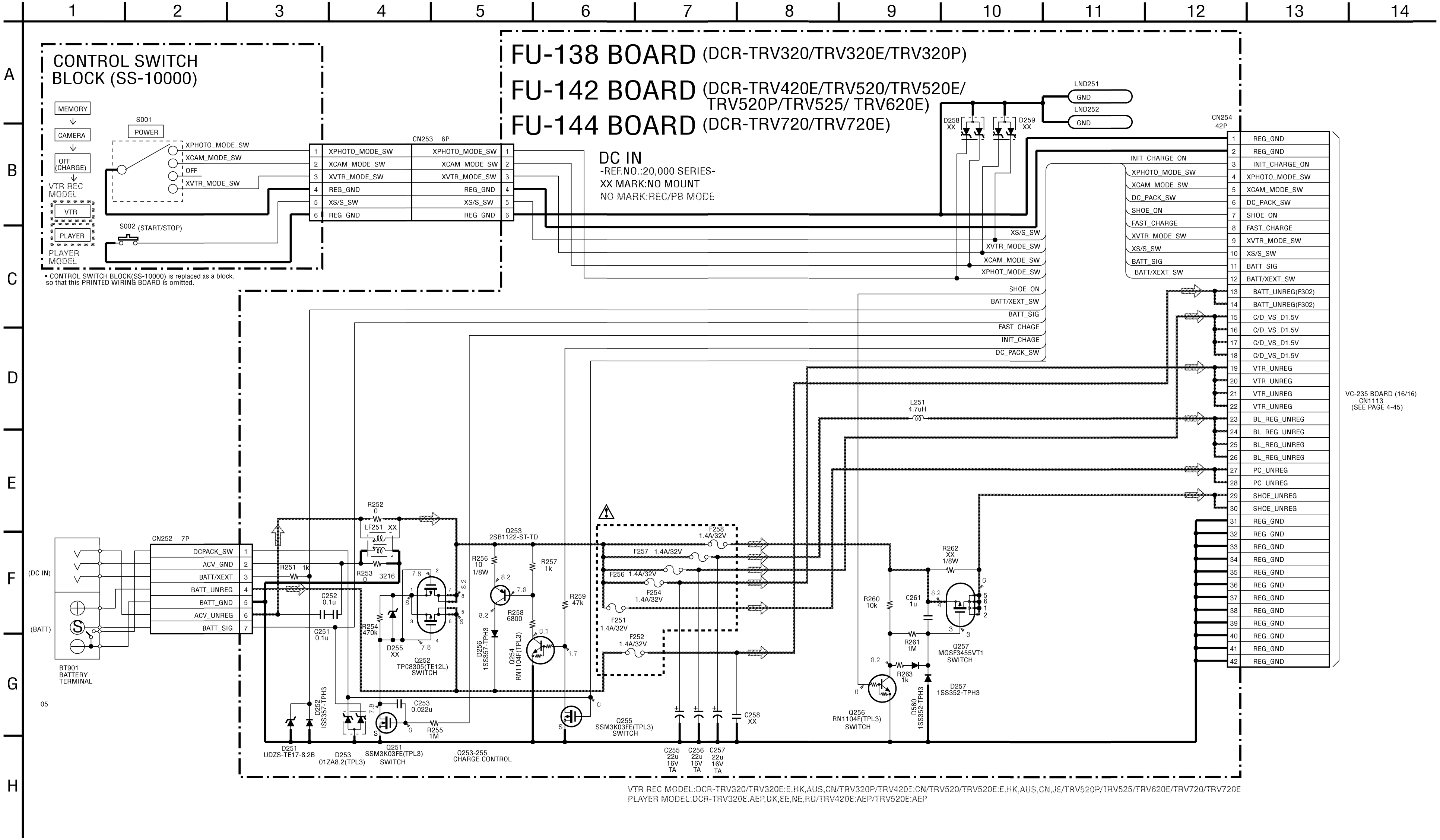

A
K
D258
D259
A
K
1
CN254
R262
R260
R263
Q256
R259
R256
D560
R258
C
Q253
B
R257
Q257
C261
R261
D257
2
3
Q254
Q255
C258
F252
42
Q251
R255
C253
1
2
3
4
8
7
6
5
Q252
D256
D255
R254
05

FU-138:1-676-775- 12(22)

FU-142:1-676-761- 11(21)

FU-144:1-676-768- 11

SS-10000 (CONTROL SWITCH BLOCK), FU-138/142/144 (DC IN) SCHEMATIC DIAGRAM

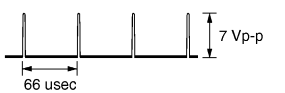

1
2
3
4
5
6
7
8
9
10
11
12
13
14
A
B
C
D
E
F
G
H
CONTROL SWITCH BLOCK (SS-10000)
MEMORY
CAMERA
OFF (CHARGE)
VTR REC MODEL
VTR
PLAYER
PLAYER MODEL
S001
POWER
XPHOTO_MODE_SW
XCAM_MODE_SW
OFF
XVTR_MODE_SW
S002 (START/STOP)
• CONTROL SWITCH BLOCK(SS-10000) is replaced as a block. so that this PRINTED WIRING BOARD is omitted.
CN253 6P
REG_GND
XS/S_SW
FU-138 BOARD (DCR-TRV320/TRV320E/TRV320P)
FU-142 BOARD (DCR-TRV420E/TRV520/TRV520E/ TRV520P/TRV525/ TRV620E)
FU-144 BOARD (DCR-TRV720/TRV720E)
DC IN
-REF.NO.:20,000 SERIES-
XX MARK:NO MOUNT
NO MARK:REC/PB MODE
LND251
GND
LND252
D258 XX
D259 XX
CN254 42P
INIT_CHARGE_ON
DC_PACK_SW
SHOE_ON
FAST_CHARGE
XVTR_MODE_SW
BATT_SIG
BATT/XEXT_SW
XPHOT_MODE_SW
BATT/XEXT_SW
FAST_CHAGE
INIT_CHAGE
BATT_UNREG(F302)
C/D_VS_D1.5V
VTR_UNREG
BL_REG_UNREG
PC_UNREG
SHOE_UNREG
VC-235 BOARD (16/16) CN1113 (SEE PAGE 4-45)
L251 4.7uH
(DC IN)
(BATT)
BT901 BATTERY TERMINAL
05
CN252 7P
DCPACK_SW
ACV_GND
BATT/XEXT
BATT_UNREG
BATT_GND
ACV_UNREG
BATT_SIG
R251 1k
R252 0
LF251 XX
R253 0 3216
C252 0.1u
C251 0.1u
R254 470k
D255 XX
Q252 TPC8305(TE12L) SWITCH
Q253 2SB1122-ST-TD
R256 10 1/8W
R257 1k
R258 6800
D256 1SS357-TPH3
Q254 RN1104F(TPL3)
R259 47k
F258 1.4A/32V
F257 1.4A/32V
F256 1.4A/32V
F254 1.4A/32V
F251 1.4A/32V
F252 1.4A/32V
D251 UDZS-TE17-8.2B
D252 1SS357-TPH3
D253 01ZA8.2(TPL3)
Q251 SSM3K03FE(TPL3) SWITCH
C253 0.022u
R255 1M
Q253-255 CHARGE CONTROL
Q255 SSM3K03FE(TPL3) SWITCH
C255 22u 16V TA
C256 22u 16V TA
C257 22u 16V TA
C258 XX
R260 10k
C261 1u
R262 XX 1/8W
R261 1M
R263 1k
Q256 RN1104F(TPL3) SWITCH
D560 1SS352-TPH3
Q257 MGSF3455VT1 SWITCH
D257 1SS352-TPH3

VTR REC MODEL:DCR-TRV320/TRV320E:E,HK,AUS,CN/TRV320P/TRV420E:CN/TRV520/TRV520E:E,HK,AUS,CN,JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E
PLAYER MODEL:DCR-TRV320E:AEP,UK,EE,NE,RU/TRV420E:AEP/TRV520E:AEP

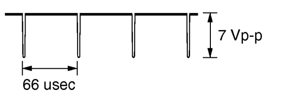
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

4-3. WAVEFORMS

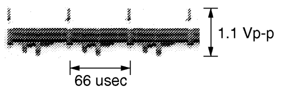
CD-242/266/270 BOARD

❶


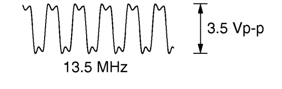
IC101 ①, ② REC/PB

❷


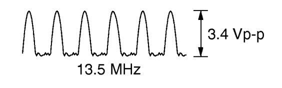
IC101 ③, ④ REC/PB

❸


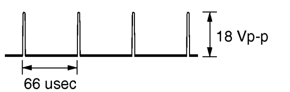
IC101 ⑦ REC/PB

❹


IC101 ⑬, ⑭ REC/PB

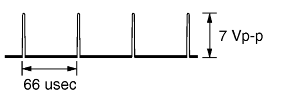
❺


IC101 ⑫ REC/PB

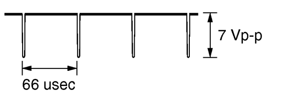
❻


IC101 ⑩ REC/PB

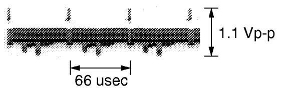
CD-244/267/271 BOARD

❶


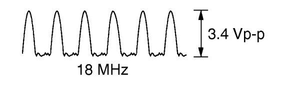
IC151 ①, ② REC/PB

❷


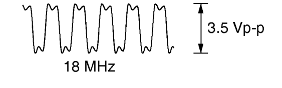
IC151 ③, ④ REC/PB

❸


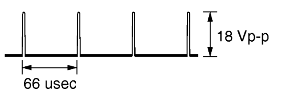
IC151 ⑧ REC/PB

❹


IC151 ⑩ REC/PB

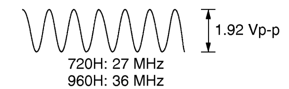
❺


IC151 ⑪, ⑫ REC/PB

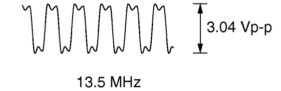
❻


IC151 ⑬ REC/PB

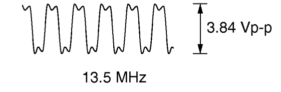
VC-235 BOARD

❶


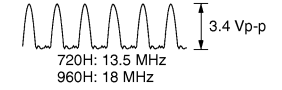
IC1501 ④ REC/PB

❷


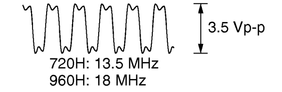
IC1501 ⑪ REC/PB

❸


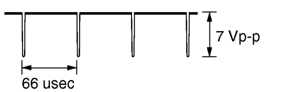
IC1501 ⑫ REC/PB

❹


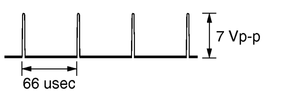
IC1501 ⑱ REC/PB

❺


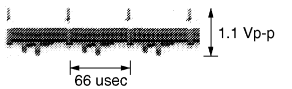
IC1501 ㉑, ㉒ REC/PB

❻


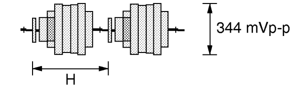
IC1501 ㉕, ㉖ REC/PB

❼


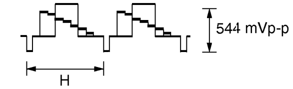
IC1501 ㉘, ㉛ REC/PB

❽


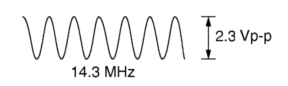
IC1502 ㉚ REC/PB

❾


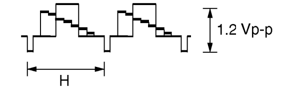
IC2201 (213)PB (Hi8/Std8)

❿


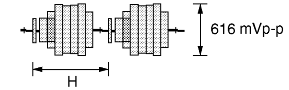
IC2201 ④ PB (Hi8/Std8)

⓫


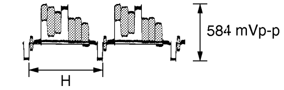
IC2201 (67) PB (Hi8/Std8)

⓬


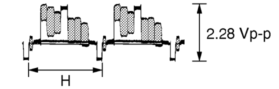
IC3701 ㊱ LINE REC/PB (Hi8/Std8)

⓭


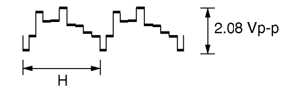
IC3701 ㉞ LINE REC/PB (Hi8/Std8)

⓮


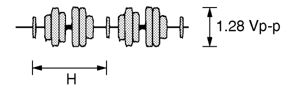
IC3701 ㉔ PB (IR ON)

⓯


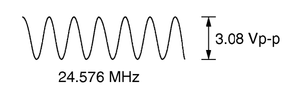
IC3701 ㉒ PB (A/V JACK USE)

⓰


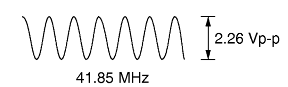
IC3701 ⑱ PB (S VIDEO JACK USE)

⓱


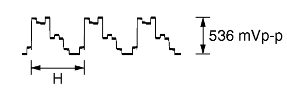
IC3701 ⑭ PB (S VIDEO JACK USE)

⓲


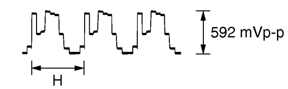
IC3301 (138)REC/PB

⓳


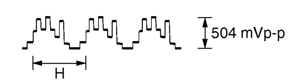
IC3301 (114)REC/PB

⓴


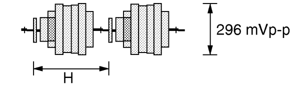
IC3301 (75) REC/PB

㉑


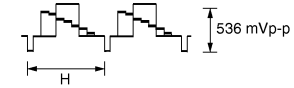
IC3301 (73) REC/PB

㉒


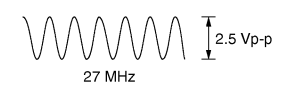
IC3301 (71) REC/PB

㉓


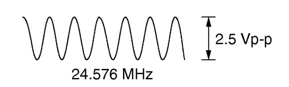
IC3301 (59) PB (Hi8/Std8)

㉔


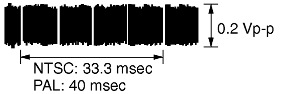
IC3301 (55) PB (Hi8/Std8)

㉕


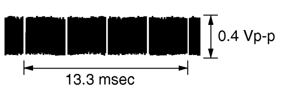
IC3301 ㊻ REC/PB (Hi8/Std8)

㉕


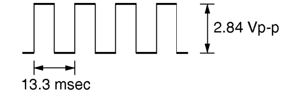
IC3301 ㊻ PB (Digital8)

㉖


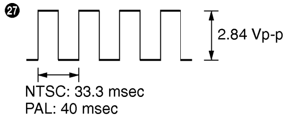
IC3103 ㉗, ㉙ PB (Hi8/Std8)

㉖


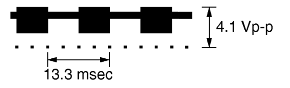
IC3103 ㉗, ㉙ PB (Digital8)

㉗


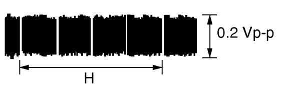
IC3103 ㉟ REC/PB (Digital8)

㉗


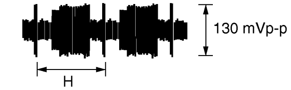
IC3103 ㉟ PB (Hi8/Std8)

㉘


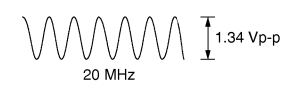
IC3103 ①, ②, ⑥, ⑦ REC

㉙


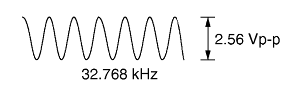
IC3201⑱ PB (Hi8/Std8)

㉚


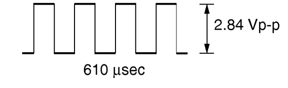
IC3201 ⑪ PB (Hi8/Std8)

㉛


IC4803 ㊶ REC/PB

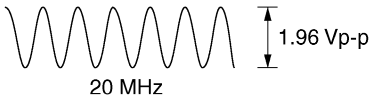
㉜


IC4803 (52) REC/PB

㉝


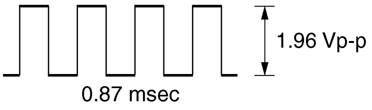
IC4501 (115) REC/PB

㉞


1.96 Vp-p
20 MHz

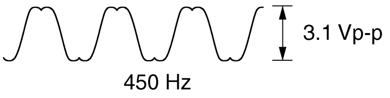
IC4902 ① REC/PB

㉟


1.96 Vp-p
0.87 msec

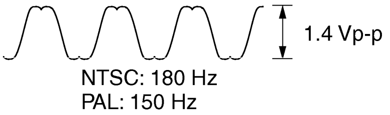
IC4902 (115) PB (Hi8/Std8)

㊱


3.1 Vp-p
450 Hz

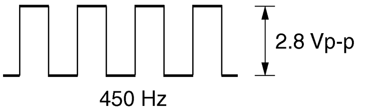
IC4401 (57), (59), (61) REC/PB (Digital8)

㊱


1.4 Vp-p
NTSC: 180 Hz
PAL: 150 Hz

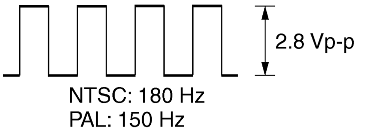
IC4401 (57), (59), (61) PB (Hi8/Std8)

㊲


2.8 Vp-p
450 Hz

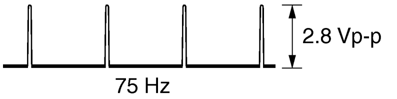
IC4401 ⑯ REC/PB (Digital8)

㊲


2.8 Vp-p
NTSC: 180 Hz
PAL: 150 Hz

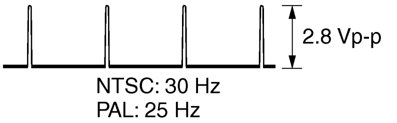
IC4401 ⑯ PB (Hi8/Std8)

㊳



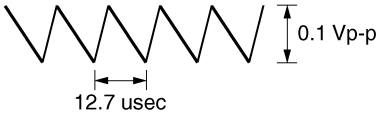
IC4401 ㉒ REC/PB (Digital8)

㊳


2.8 Vp-p
NTSC: 30 Hz
PAL: 25 Hz

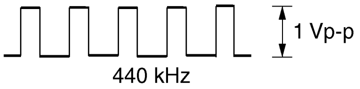
IC4401 ㉒ PB (Hi8/Std8)

㊴


0.1 Vp-p
12.7 usec

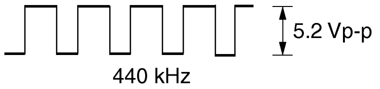
IC4401 ㉙ REC/PB

㊵


1 Vp-p
440 kHz

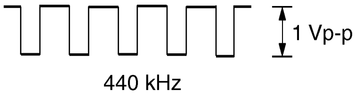
IC1301 ② REC/PB

㊶


5.2 Vp-p
440 kHz

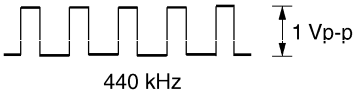
IC1301 ㊷ REC/PB

㊷


1 Vp-p
440 kHz

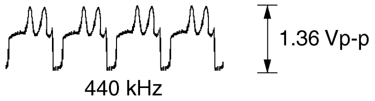
IC1301 ㊺ REC/PB

㊸


1 Vp-p
440 kHz

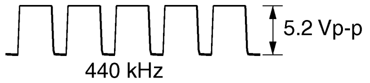
IC1301 ㊻ REC/PB

㊹


1.36 Vp-p
440 kHz

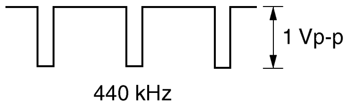
IC1301 ㊿ REC/PB

㊺


5.2 Vp-p
440 kHz

IC1301 (54) REC/PB

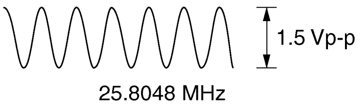
㊻


1 Vp-p
440 kHz

IC1301 (57) REC/PB

PC-77 BOARD

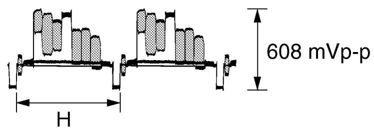
①


1.5 Vp-p
25.8048 MHz

IC105 (161) MEMORY REC/PB

MI-37 BOARD

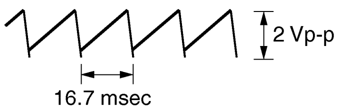
❶



IC3901 ㊶ REC/PB (IR ON)

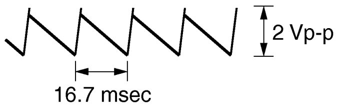
VF-129 BOARD

❶



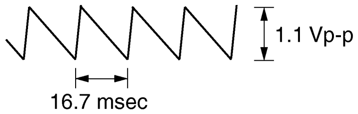
IC901 ①, ⑤ REC/PB

❷



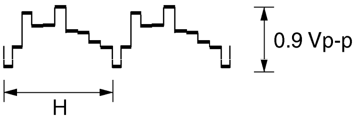
IC901 ③ REC/PB

❸



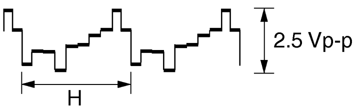
IC901 ⑦ REC/PB

❹



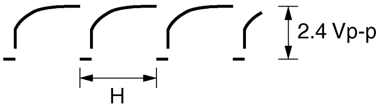
IC901 ⑪ REC/PB

❺



IC901 ⑬ REC/PB

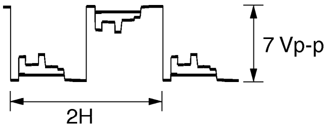
❻



IC901 ⑯ REC/PB

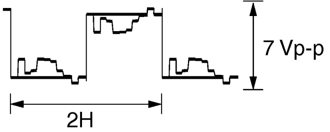
VF-141 BOARD

❶, ❷, ❸ B/W EVF MODEL



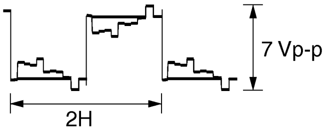
IC4501 ⑳, ㉒, ㉔ REC/PB

❶ COLOR EVF MODEL



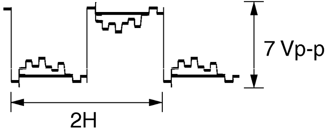
IC4501 ⑳ REC/PB

❷ COLOR EVF MODEL



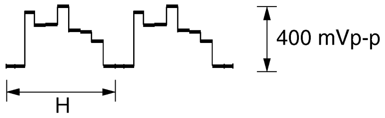
IC4501 ㉒ REC/PB

❸ COLOR EVF MODEL



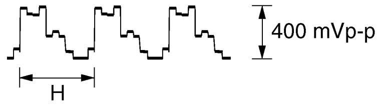
IC4501 ㉔ REC/PB

❹, ❺, ❻ B/W EVF MODEL



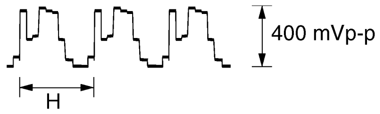
IC4501 ㊻, ㊼, ㊽ REC/PB

❹ COLOR EVF MODEL



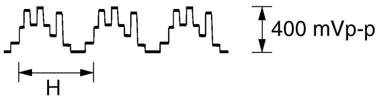
IC4501 ㊻ REC/PB

❺ COLOR EVF MODEL



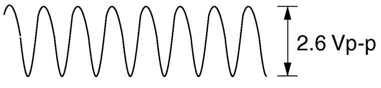
IC4501 ㊼ REC/PB

❻ COLOR EVF MODEL



IC4501 ㊽ REC/PB

❼

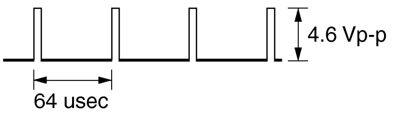


11 MHz

IC4502 ㉖ REC/PB

LB-62 BOARD

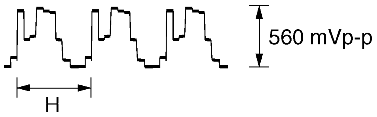
❶



IC4601 ④ REC/PB

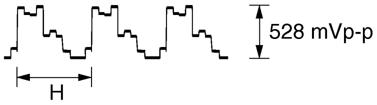
PD-117 BOARD

❶



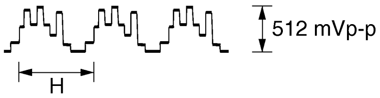
IC5501 ㊽ REC/PB

❷



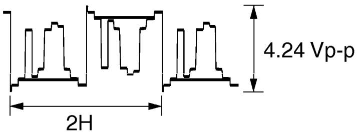
IC5501 ㊼ REC/PB

❸



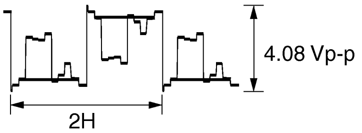
IC5501 ㊻ REC/PB

❹



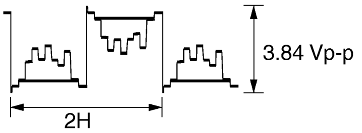
IC5501 ⑳ REC/PB

❺



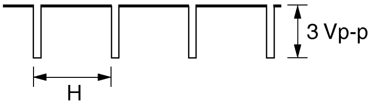
IC5501 ㉒ REC/PB

❻



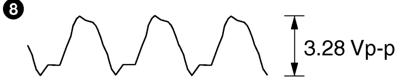
IC5501 ㉔ REC/PB

❼



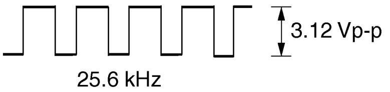
IC5502 ① REC/PB

❽



TYPE C : 5.9 MHz
TYPE S 123k: 11.66 MHz
TYPE S 61k: 5.9 MHz
IC5502 ㉖ REC/PB

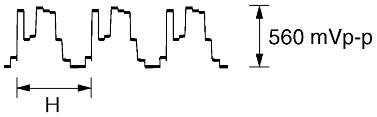
❾



IC5701 ② REC

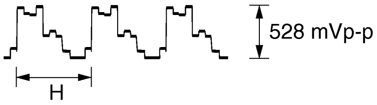
PD-118 BOARD

❶



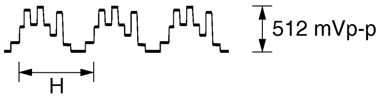
IC5501 ㊽ REC/PB

❷



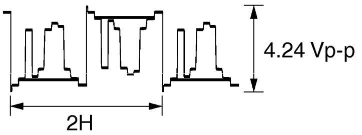
IC5501 ㊼ REC/PB

❸



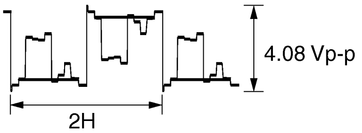
IC5501 ㊻ REC/PB

❹



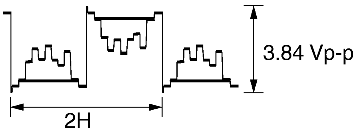
IC5501 ⑳ REC/PB

❺



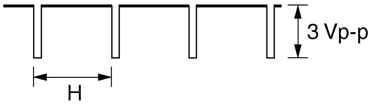
IC5501 ㉒ REC/PB

❻



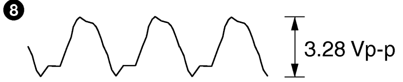
IC5501 ㉔ REC/PB

❼



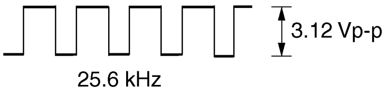
IC5502 ① REC/PB

❽



TYPE C : 5.9 MHz
TYPE S : 11.66 MHz
IC5502 ㉖ REC/PB

❾



IC5701 ② REC

4-4. PARTS LOCATION

* : C1504 is mounted on the board with suffix number -13 (23, 33)

VC-235 BOARD
(SIDE A)

C1320	B-6	C3207	F-3	FB1504	C-5	R1331	C-6	R3308	C-3
C1322	B-6	C3208	F-2	FB2202	C-4	R1332	C-6	R3382	C-6
C1333	C-8	C3210	F-3	FB2203	D-3	R1333	B-6	R3383	C-6
C1335	C-8	C3211	F-3	FB2204	C-3	R1334	B-6	R3701	G-1
C1336	C-8	C3212	F-3	FB2205	B-3	R1335	A-6	R3702	G-1
C1338	A-8	C3213	F-3	FB2291	F-6	R1336	B-6	R3704	G-1
C1339	C-8	C3214	F-3	FB3701	F-1	R1337	A-6	R3705	G-1
C1340	C-7	C3215	F-3	FB4801	B-5	R1338	C-6	R3712	F-2
C1341	C-8	C3216	F-3			R1339	B-6	R3713	F-2
C1342	B-9	C3217	F-3	IC1302	B-6	R1340	B-6	R3714	F-2
C1343	C-7	C3218	F-3	IC1303	F-4	R1341	A-6	R3715	F-2
C1345	C-8	C3320	C-6	IC1502	B-4	R1342	A-6	R3716	F-2
C1346	C-9	C3327	C-6	IC1552	A-5	R1343	A-6	R3717	F-2
C1347	C-7	C3701	F-1	IC1553	A-4	R1344	C-8	R3721	F-2
C1348	B-9	C3704	F-2	IC2201	D-5	R1511	B-5	R3722	F-2
C1350	C-7	C3705	F-2	IC2202	E-4	R1514	B-4	R3724	E-2
C1352	B-6	C3706	F-2	IC2291	F-6	R1520	B-5	R3726	E-2
C1353	A-6	C3707	F-2	IC3103	F-5	R1552	A-4	R3727	E-2
C1354	C-5	C3708	F-2	IC3201	F-3	R1553	A-5	R3728	E-2
C1355	A-6	C3709	F-2	IC3202	F-3	R1556	A-4	R3729	E-2
C1356	C-8	C3710	F-2	IIC3701	E-2	R1560	A-5	R3730	E-2
C1357	F-4	C3711	F-2	IC4401	F-8	R1561	B-5	R3734	F-1
C1508	B-5	C3712	F-2			R1562	A-5	R4401	G-7
C1513	B-4	C3713	F-2	L1301	B-8	R1563	A-5	R4402	G-7
C1514	B-4	C3714	F-2	L1302	B-8	R1564	A-5	R4405	F-7
C1515	B-5	C3715	F-3	L1303	B-7	R1565	A-5	R4407	G-8
C1516	B-4	C3716	F-3	L1304	A-8	R1566	A-5	R4408	G-7
C1517	B-4	C3717	F-2	L1305	A-8	R1567	A-5	R4409	G-7
C1518	B-4	C3718	F-2	L1306	C-7	R1568	A-5	R4410	G-7
C1519	B-4	C3719	E-2	L1307	C-7	R1569	B-5	R4411	G-9
C1520	B-4	C3723	E-2	L1308	C-8	R1570	A-5	R4413	G-8
C1521	B-4	C3724	E-2	L1309	C-8	R1571	A-5	R4414	G-9
C1522	B-4	C3728	E-2	L1311	B-6	R1572	A-5	R4416	F-8
C1523	B-4	C3729	E-2	L1312	C-9	R1573	A-5	R4417	F-9
C1525	B-5	C3730	E-2	L1313	C-8	R1574	B-5	R4423	F-8
C1552	A-5	C3731	E-2	L1314	C-9	R1575	A-5	R4424	F-9
C1554	A-5	C3732	E-3	L1315	C-8	R1576	B-5	R4425	F-7
C1558	B-5	C3733	E-3	L1316	C-8	R1577	B-5	R4426	F-7
C1559	B-5	C3734	E-2	L1317	A-7	R2205	F-4	R4427	F-8
C1560	A-5	C3735	E-2	L1318	C-7	R2206	E-4	R4428	F-7
C1561	A-4	C4401	G-8	L1320	C-9	R2208	C-3	R4429	F-7
C1562	A-5	C4402	G-9	L1321	B-6	R2209	E-3	R4430	F-9
C1564	A-5	C4403	G-7	L2201	D-3	R2210	E-3	R4431	F-8
C1565	B-5	C4404	G-8	L2203	C-3	R2211	C-3	R4432	E-8
C1566	B-5	C4405	G-8	L2204	F-4	R2213	F-4	R4434	E-7
C1568	B-5	C4406	G-8	L2207	E-4	R2215	E-3	R4435	E-7
C1570	A-5	C4407	G-8	L2208	D-3	R2216	E-4	R4436	E-8
C1572	A-5	C4408	F-8	L2291	E-7	R2218	E-3	R4437	F-8
C2201	F-4	C4409	G-6	L3103	E-6	R2219	F-4	R4438	F-8
C2202	F-4	C4410	G-9	L3104	E-5	R2220	E-3	R4442	G-8
C2203	E-3	C4411	G-6	L3105	F-5	R2221	E-3	R4443	G-7
C2204	E-4	C4412	G-6	L3106	F-5	R2222	E-5	R4444	E-8
C2208	E-4	C4413	F-7	L3201	G-2	R2224	C-3	R4445	G-8
C2210	E-3	C4414	G-8	L3305	C-6	R2225	C-4	R4446	E-8
C2211	E-3	C4415	F-8	L3306	C-6	R2230	E-4	R4447	G-7
C2212	E-4	C4416	F-8	L3701	E-3	R2240	E-3	R4448	G-7
C2213	E-3	C4417	F-7	L3705	E-1	R2242	E-4	R4801	A-6
C2215	D-4	C4418	F-9			R2243	E-4	R4802	A-6
C2223	D-4	C4419	F-7	Q1104	D-7	R2244	C-4	R4806	A-6
C2225	C-4	C4420	F-8	Q1315	B-6	R2245	C-3	R4807	A-6
C2226	E-3	C4421	F-7	Q1316	C-7	R2247	E-5	R4809	A-6
C2227	E-4	C4424	F-7	Q1318	C-6	R2248	E-5	R4810	A-6
C2228	D-3	C4425	F-8	Q1320	C-6	R2254	C-4	R4851	D-8
C2229	D-4	C4426	F-9	Q1321	C-6	R2255	E-5	R4876	B-6
C2230	E-4	C4427	F-9	Q1322	A-6	R2256	E-5		
C2233	C-4	C4428	E-7	Q1323	C-6	R3114	F-4	T1301	A-9
C2234	E-4	C4429	E-7	Q1324	A-6	R3115	F-4		
C2238	C-4	C4430	E-8	Q1325	C-6	R3116	F-4	X4802	B-6
C2240	B-3	C4431	E-8	Q1326	A-6	R3117	F-5		
C2242	E-6	C4432	F-9	Q1551	A-5	R3118	F-5		
C2243	D-6	C4433	E-7	Q1554	B-5	R3119	F-5		
C2244	C-3	C4434	E-7	Q2204	F-4	R3120	F-5		
C2247	E-4	C4435	E-8	Q3103	F-4	R3121	F-5		
C2250	C-4	C4436	E-8	Q3104	F-6	R3122	F-5		
C2291	E-6	C4801	A-6	Q3105	F-5	R3123	F-6		
C2292	F-7	C4821	B-5	Q3106	F-5	R3124	F-6		
C2293	F-6	C4822	B-6	Q3108	F-6	R3125	F-4		
C3111	E-6			Q3111	F-6	R3126	F-5		
C3121	F-5	CN1104	E-7	Q3116	F-5	R3127	F-6		
C3122	F-5	CN1105	D-8	Q3201	F-3	R3129	F-5		
C3123	F-5	CN1107	A-7	Q3701	G-1	R3130	F-5		
C3124	F-5	CN1109	G-1	Q4401	G-8	R3131	F-4		
C3126	F-5	CN1111	F-1	Q4402	E-8	R3132	F-5		
C3127	F-5	CN1113	F-9	Q4801	A-6	R3133	F-5		
C3128	F-4	CN1551	A-5	Q4802	A-6	R3136	F-5		
C3131	F-4	CN3101	G-4	Q4803	A-6	R3137	F-6		
C3133	F-4	CN4401	G-2	Q4805	A-6	R3138	F-5		
C3134	F-6	CN4402	G-6			R3143	F-5		
C3135	F-6	CN4403	G-7	R1124	D-7	R3144	F-5		
C3136	F-6	CN4404	G-8	R1129	C-7	R3205	F-3		
C3138	F-5			R1130	C-7	R3206	F-2		
C3139	F-6	D1301	B-8	R1134	D-7	R3210	F-3		
C3201	G-3	D1302	B-9	R1145	C-7	R3211	F-4		
C3202	G-2	D1305	B-9	R1308	A-6	R3212	F-3		
C3203	G-2	D1306	B-9	R1315	F-4	R3213	F-3		
C3204	F-2	D1551	A-5	R1323	C-7	R3214	F-3		
C3205	F-3	D2201	E-5	R1327	B-6	R3215	G-2		
C3206	F-2	D2202	E-4	R1330	C-6	R3306	B-3		

VC-235 BOARD
(SIDE B)

C1101	A-4	C3332	G-1	C5725	G-4
C1301	C-8	C3333	G-2	C5728	G-4
C1302	C-7	C3334	C-3	C5730	G-4
C1303	C-7	C3335	G-2	C5731	F-4
C1304	C-8	C3337	F-1	C5732	E-3
C1305	C-8	C3338	G-1	C5733	F-4
C1306	C-7	C3342	C-6	C5734	E-3
C1307	C-8	C3343	C-5	C5735	F-4
C1308	C-8	C3345	C-5	C5736	G-4
C1309	C-7	C3346	E-5	C5737	E-3
C1310	C-8	C3348	E-6	C5738	G-4
C1311	C-7	C3601	C-7	C5739	E-3
C1312	C-8	C3603	D-7	C5740	F-4
C1313	B-7	C3604	C-6	C5741	F-4
C1314	B-8	C3608	D-7	C5742	G-4
C1315	B-7	C3610	C-8	C5743	F-4
C1316	B-8	C3611	D-6	C5744	F-4
C1317	B-8	C3612	D-6	C5745	F-4
C1318	B-8	C3613	D-7	C5746	F-4
C1319	B-7	C3614	D-7	C5747	F-4
C1321	A-8	C3615	D-7	C5748	F-4
C1323	B-8	C3616	D-7	C5749	F-4
C1326	B-8	C3617	D-7	C5750	E-2
C1327	B-8	C3618	D-7	C5751	E-2
C1328	A-9	C3619	D-7	C5752	E-1
C1329	B-7	C3620	D-7	C5753	E-1
C1330	A-8	C3621	D-8	C5754	E-2
C1331	A-8	C3622	D-6	C5755	E-2
C1332	A-7	C3626	D-8	C5756	E-1
C1334	A-9	C3628	D-8	C5757	E-1
C1337	A-9	C3629	D-8	C5758	G-3
C1344	A-7	C3630	E-8	C5759	G-4
C1351	C-9	C3631	E-6		
C1359	A-9	C3632	E-8	CN1101	A-4
C1501	B-5	C3633	E-7	CN1103	F-1
C1502	B-5	C3634	E-7	CN1108	C-9
C1503	B-5	C3636	D-6		
*C1504	B-5	C4501	G-6	D1101	A-4
C1505	B-5	C4504	F-7	D1102	A-4
C1506	B-5	C4505	F-7	D1103	A-7
C1507	B-4	C4506	F-7	D1104	A-8
C1509	B-4	C4507	E-7	D3301	E-6
C1511	C-5	C4508	F-7	D3302	E-6
C1512	C-4	C4509	G-6	D3303	C-6
C1524	B-4	C4510	E-6	D3304	C-6
C1556	A-5	C4802	E-8	D4401	D-8
C1563	B-4	C4803	E-9	D4801	E-8
C1569	A-5	C4804	F-9	D4802	E-9
C1571	A-5	C4805	E-9	D4803	E-8
C2232	C-4	C4806	A-6	D4804	E-9
C3102	E-5	C4807	A-6	D4808	A-5
C3104	F-4	C4808	A-7	D4809	A-5
C3105	E-5	C4809	A-7	D4810	A-6
C3107	F-4	C4810	A-7	D4811	E-9
C3108	F-5	C4811	A-7		
C3109	F-5	C4812	A-6	FB1501	B-4
C3110	F-5	C4813	A-6	FB1502	B-4
C3112	F-5	C4814	A-6	FB1503	B-4
C3113	F-5	C4816	A-6	FB1505	B-4
C3114	F-5	C4817	A-6	FB3303	F-4
C3115	F-5	C4819	C-6	FB3304	G-2
C3116	F-4	C4820	B-5	FB3307	C-3
C3117	F-5	C4823	B-5	FB3601	E-8
C3118	F-5	C4824	A-5	FB4501	F-7
C3119	F-4	C4825	A-5	FB4901	G-9
C3120	F-5	C4826	A-5		
C3137	G-5	C4902	G-8	IC1301	C-8
C3141	G-5	C4903	G-7	IC1501	B-4
C3142	G-4	C4904	G-7	IC3101	F-5
C3143	G-4	C4905	F-7	IC3102	F-5
C3144	G-5	C4906	F-7	IC3301	D-4
C3301	D-3	C4907	G-7	IC3302	D-3
C3302	F-4	C4908	G-8	IC3303	F-2
C3303	C-3	C4909	G-8	IC3603	D-7
C3305	E-4	C4910	G-8	IC4501	F-6
C3306	D-3	C4911	F-9	IC4502	E-7
C3307	E-4	C5701	E-2	IC4801	E-8
C3308	E-4	C5702	E-2	IC4802	E-9
C3309	C-4	C5703	E-2	IC4803	B-6
C3310	E-4	C5704	E-2	IC4901	F-9
C3311	C-5	C5705	E-3	IC4902	F-8
C3312	E-5	C5706	E-3	IC5701	F-3
C3313	E-6	C5709	E-2	IC5702	E-1
C3314	E-6	C5710	F-2		
C3315	C-6	C5711	G-2	L1310	A-8
C3316	C-6	C5712	G-3	L1501	B-4
C3317	E-6	C5713	E-3	L1551	A-4
C3318	E-6	C5714	G-3	L1552	A-4
C3319	E-6	C5715	E-3	L1553	A-5
C3321	C-5	C5716	G-3	L2202	C-4
C3322	E-6	C5717	E-2	L2209	C-4
C3323	D-6	C5718	F-3	L3102	G-5
C3324	C-6	C5719	E-3	L3303	E-6
C3325	C-6	C5720	F-3	L3304	C-6
C3326	C-6	C5721	F-3	L3307	G-2
C3328	C-6	C5722	E-3	L3601	C-7
C3329	G-2	C5723	G-3	L3602	C-7
C3331	G-1	C5724	E-3	L5701	E-2

Q1101	A-7
Q1102	A-7
Q1103	A-8
Q1301	A-9
Q1302	B-8
Q1303	A-8
Q1304	A-8
Q1305	B-7
Q1306	A-8
Q1307	B-8
Q1308	A-8
Q1309	A-7
Q1310	B-8
Q1311	B-9
Q1312	B-9
Q1313	B-9
Q1314	B-9
Q1317	C-8
Q1319	C-9
Q1552	A-5
Q1553	A-5
Q3102	F-4
Q3107	G-5
Q3109	G-4
Q3110	G-5
Q3112	F-4
Q3113	F-4
Q3114	F-5
Q3115	F-5
Q3301	D-6
Q3302	D-6
Q3303	D-6
Q3304	D-6
Q3305	D-6
Q3306	D-6
Q3307	D-6
Q3308	D-6
Q3602	C-7
Q3603	D-7
Q3604	C-6
Q3605	D-6
Q3606	D-7
Q4804	E-8
Q4806	E-9
Q4807	A-6
Q4808	A-6
Q4809	A-5
Q4810	C-7
Q4811	E-9
Q4812	E-9
Q4901	F-7
Q5701	G-3
Q5703	E-2
Q5704	G-2
Q5706	E-2
Q5708	E-2
Q5714	G-3
Q5715	G-3
R1101	A-4
R1127	G-8
R1128	G-8
R1131	G-9
R1132	G-9
R1137	A-8
R1141	A-7
R1142	C-9
R1143	C-9
R1144	D-9
R1146	A-8
R1147	A-8
R1301	C-8
R1302	C-8
R1303	C-8
R1304	B-8
R1305	C-8
R1306	C-7
R1307	C-8
R1309	C-8
R1310	C-7
R1311	C-7
R1312	C-8
R1313	C-7
R1314	C-8
R1316	B-9
R1317	B-9
R1318	B-9
R1319	B-9
R1320	B-9
R1321	B-9
R1322	B-9
R1324	C-9
R1325	C-9
R1326	C-8
R1328	C-9
R1329	C-9
R1345	B-7
R1347	B-8

R1348	B-8
R1501	B-5
R1502	B-5
R1503	B-5
R1504	B-4
R1505	B-4
R1506	B-4
R1512	C-4
R1551	A-5
R1555	A-5
R1557	A-5
R1558	A-5
R1559	A-5
R3103	F-4
R3104	F-4
R3105	E-5
R3106	F-5
R3107	F-5
R3108	F-5
R3109	F-5
R3110	F-5
R3111	F-4
R3112	F-5
R3113	F-5
R3128	G-5
R3139	G-4
R3140	F-4
R3141	G-5
R3142	F-5
R3146	F-4
R3305	D-3
R3309	E-6
R3310	E-6
R3311	E-6
R3312	E-6
R3313	E-6
R3314	D-6
R3315	D-5
R3316	D-5
R3317	C-5
R3318	C-6
R3319	C-6
R3320	E-6
R3321	C-5
R3322	E-6
R3323	C-6
R3324	C-6
R3325	C-6
R3326	C-5
R3327	D-6
R3328	D-6
R3329	D-6
R3331	D-6
R3332	D-6
R3333	G-2
R3334	D-6
R3335	D-6
R3336	D-6
R3337	G-2
R3338	D-6
R3340	D-6
R3341	D-6
R3343	D-6
R3346	G-1
R3349	G-2
R3350	G-1
R3351	D-6
R3352	E-1
R3356	C-6
R3358	D-6
R3360	C-6
R3361	F-1
R3362	G-1
R3364	F-1
R3365	G-1
R3367	F-1
R3368	F-1
R3369	G-1
R3370	F-1
R3371	G-1
R3372	F-1
R3375	D-3
R3376	D-3
R3377	E-5
R3378	C-5
R3379	C-5
R3380	E-4
R3381	E-6
R3385	E-4
R3386	D-3
R3387	D-7
R3388	D-7
R3604	D-8
R3607	C-7
R3609	D-6
R3611	C-7
R3612	C-6
R3617	D-7

R3618	C-6
R3622	D-7
R3636	D-8
R3639	D-8
R3643	D-6
R3652	D-6
R3656	E-8
R3657	D-6
R3658	C-7
R3659	C-6
R3660	C-7
R4403	E-7
R4404	E-7
R4406	E-8
R4502	G-6
R4503	G-6
R4504	G-6
R4505	G-6
R4507	G-7
R4508	F-7
R4511	E-7
R4512	F-7
R4514	F-7
R4515	E-7
R4516	E-7
R4517	E-6
R4518	E-6
R4520	E-7
R4521	E-6
R4522	E-6
R4523	E-6
R4524	E-6
R4525	E-6
R4526	E-6
R4527	E-7
R4528	E-7
R4529	E-7
R4530	F-7
R4531	F-7
R4532	E-6
R4533	F-5
R4534	F-5
R4803	E-8
R4804	A-5
R4808	E-8
R4811	E-7
R4813	A-7
R4814	B-7
R4815	B-7
R4816	B-7
R4817	B-7
R4818	B-7
R4819	B-7
R4820	A-7
R4821	A-7
R4822	A-7
R4823	E-9
R4824	F-9
R4825	B-7
R4826	B-7
R4827	B-7
R4828	B-7
R4829	B-7
R4830	B-7
R4831	A-5
R4832	C-7
R4833	A-6
R4834	A-6
R4835	A-6
R4836	A-6
R4837	C-6
R4838	C-6
R4839	C-6
R4840	C-6
R4841	A-7
R4842	A-7
R4843	A-7
R4844	A-7
R4845	C-7
R4846	A-6
R4847	A-5
R4848	A-6
R4849	A-6
R4850	A-5
R4852	A-5
R4853	A-5
R4856	E-9
R4861	A-6
R4862	A-6
R4863	C-6
R4864	C-6
R4866	C-6
R4867	A-6
R4868	A-6
R4869	A-6
R4871	C-6
R4872	C-6
R4873	C-6

R4874	B-5
R4875	B-5
R4877	B-5
R4878	B-5
R4879	B-5
R4880	B-5
R4881	B-5
R4882	B-5
R4883	B-5
R4884	B-5
R4885	A-5
R4886	A-5
R4887	A-5
R4888	A-5
R4892	A-5
R4894	B-5
R4895	A-7
R4897	A-6
R4898	A-5
R4899	C-7
R4901	F-7
R4902	G-7
R4903	G-7
R4904	F-9
R4906	G-7
R4908	E-8
R4910	E-8
R4911	E-8
R4912	E-8
R4913	E-8
R4914	E-8
R4915	G-8
R4916	G-8
R4917	E-8
R4918	G-8
R4919	G-7
R4920	F-9
R4921	F-9
R4922	F-9
R4923	F-9
R4924	F-9
R4925	F-9
R4926	F-9
R4927	F-9
R4928	F-9
R4929	F-9
R4930	F-9
R4931	F-9
R4932	F-9
R4933	F-9
R4934	F-9
R4935	G-8
R4936	G-8
R4938	F-9
R4939	F-9
R4940	F-9
R4941	F-9
R4942	F-9
R4943	G-9
R4944	F-9
R5701	E-2
R5702	E-2
R5707	E-2
R5708	E-2
R5709	E-2
R5710	E-2
R5711	G-3
R5712	G-3
R5714	E-3
R5715	E-3
R5717	G-3
R5718	G-3
R5719	G-3
R5720	E-3
R5721	E-3
R5722	E-3
R5723	E-3
R5724	F-4
R5725	F-4
R5730	F-4
R5731	F-1
R5732	F-1
R5733	F-4
R5735	E-1
R5736	E-1
R5737	E-1
R5738	E-1
R5739	E-1
R5740	E-1
R5741	E-1
R5742	G-3
R5743	G-3
R5744	G-3
R5745	G-3
R5746	G-3
X1501	B-3
X3301	F-4

X4801	C-6
X4901	G-7

PC-77 BOARD
(SIDE A)

C101	A-1
C102	A-1
C128	B-2
C138	A-2
C140	B-2
C141	A-3
C142	A-2
C144	B-2
C145	B-2
C146	B-1
C147	A-1
C148	A-1
C150	A-1
C154	A-1
C155	A-1
C157	B-1
C158	A-2
C159	A-1
C701	A-3
C702	A-3
C703	A-3
C704	A-3
C705	A-3
C706	A-3
C710	A-3
C720	A-3
C721	A-3
C727	A-3
C728	A-3
C801	A-1
C802	A-1
D101	A-2
D102	B-1
D104	A-1
FB101	A-1
FB105	B-3
FB106	B-1
FB107	A-1
IC104	B-1
IC107	A-3
IC108	A-2
IC109	A-2
IC701	A-3
Q101	A-1
Q102	A-1
Q105	A-2
Q106	A-2
R102	A-1
R103	A-1
R104	A-1
R105	A-1
R107	A-1
R129	A-2
R131	A-2
R134	A-2
R143	A-2
R144	B-3
R145	B-3
R146	B-3
R147	B-3
R148	B-3
R149	B-3
R150	B-3
R151	B-2
R154	A-2
R159	B-2
R160	B-2
R165	A-1
R167	A-1
R168	A-1
R170	A-1
R701	A-3
R702	A-3
R703	A-3
R704	A-3
R706	A-3
R707	A-3
R715	A-3
R716	A-1

PC-77 BOARD
(SIDE B)

C104	A-1
C105	B-1
C106	A-1
C108	A-1
C109	A-1
C110	B-1
C111	B-1
C112	B-1
C113	B-1
C114	B-1
C115	A-1
C116	B-1
C117	B-1
C118	B-2
C119	B-2
C120	B-2
C121	A-2
C122	B-2
C123	A-2
C125	A-2
C126	A-2
C127	B-2
C129	B-2
C130	A-2
C131	A-2
C132	A-2
C133	A-2
C134	A-2
C135	A-2
C136	A-2
C137	A-3
C143	A-3
C151	A-1
C156	A-1
C707	A-3
C708	A-3
C711	A-3
C712	A-3
C713	A-3
C714	A-3
C715	A-3
C717	A-3
C718	B-3
C722	A-3
CN801	A-1
D103	A-2
FB102	A-3
FB103	A-2
FB104	A-3
FB801	A-1
IC103	A-1
IC105	A-2
IC702	A-3
L101	A-3
L102	A-1
L701	A-3
L702	A-3
L703	A-3
L704	A-3
L705	B-3
L706	A-3
Q103	A-1
Q104	A-2
Q701	A-2
Q702	A-3
R106	A-1
R108	A-1
R109	A-1
R110	B-1
R111	A-1
R112	A-1
R113	B-1
R114	B-1
R117	B-2
R118	B-2
R119	B-2
R120	B-2
R121	B-2
R122	B-2
R123	B-2
R124	B-2
R125	B-2
R126	B-2
R128	B-2
R130	B-2
R133	B-2
R135	B-2
R136	B-2
R137	B-2
R138	A-2
R139	A-2

R140	A-2
R141	B-2
R142	B-2
R156	A-1
R157	A-1
R158	A-1
R162	A-1
R163	A-2
R164	A-1
R166	A-1
R172	A-1
R708	A-3
R709	A-3
R711	A-3
R713	A-3
R714	A-3
R801	A-1
R802	A-1
X101	B-1

SE-104/112/114 BOARD
(SIDE A)

C201	D-2
C202	D-2
C203	D-2
C204	B-2
C207	G-2
C208	G-2
C209	F-2
C210	F-2
C211	F-2
C212	E-2
C214	F-2
C223	B-2
C225	A-2
C226	A-2
CN201	E-3
D212	A-2
IC201	F-2
J201	B-3
J202	D-3
R201	D-2
R202	D-2
R203	D-2
R204	D-2
R205	E-2
R206	G-3
R207	G-3
R208	F-3
R209	F-3
R211	F-3
R213	C-3
R214	C-2
R217	C-3
R224	A-2
R225	A-2
R226	B-2
SE201	D-2
SE202	C-2

SE-104/112/114 BOARD
(SIDE B)

C220	G-3
C221	G-3
CN202	F-2
D202	D-3
D211	D-2
L201	G-2
R212	C-2
R215	C-3
R218	D-3
R219	D-2
R220	D-3
R227	D-3
VDR001	D-3

MI-37 BOARD
(SIDE A)

C3905	A-3
C3906	A-3
C3908	A-3
C3910	A-3
C3912	B-3
C3913	B-3
C3914	B-3
C3917	B-3
C3918	B-3
C3921	B-2
C3923	B-2
C3924	A-3
C3926	A-3
C3927	A-2
C3929	A-3
C3935	A-3
C3936	A-2
C5806	A-1
C5807	A-1
C5808	B-1
C5809	B-1
C5813	A-1
C5814	B-1
C5815	B-1
C5816	B-1
C5817	A-1
C5818	B-1
C5819	B-1
C5820	A-1
C5821	A-1
C5822	A-1
C5823	B-1
C5824	A-1
C5825	B-1
C5826	A-2
C5827	B-1
C5829	B-1
C5830	A-2
C5832	A-2
C5833	A-2
C5835	B-1
C5836	B-1
C5838	A-2
C5839	B-2
C5840	A-2
C5841	A-2
C5842	A-1
C5843	A-1
C5844	A-1
D3900	B-3
D3901	B-1
IC3900	B-3
IC3901	A-3
IC5801	A-1
L3902	B-3
L3903	B-2
L3904	B-2
L5803	A-2
Q3901	B-1
Q3902	A-2
Q3903	A-2
R3900	B-3
R3912	B-3
R3913	B-3
R3916	A-3
R3919	A-3
R3920	A-3
R3921	A-3
R3922	A-2
R3923	A-2
R3924	A-3
R3936	A-2
R5801	B-1
R5802	B-1
R5803	B-1
R5804	A-2
R5807	A-1
R5809	A-1
R5814	B-1
R5815	A-1
R5816	B-1
R5817	A-1
R5818	B-1
R5819	A-1
R5820	A-2
R5821	B-1
R5822	B-1
R5823	A-2
R5824	A-2
R5825	B-1
R5826	B-1
R5827	A-2
R5828	B-1
R5829	A-2
R5830	A-2
R5831	A-2
R5834	A-2
R5846	A-2
R5847	A-1

MI-37 BOARD
(SIDE B)

C3900	B-3
C3901	A-3
C3902	A-3
C3904	A-3
C3907	B-2
C3909	B-3
C3911	B-3
C3915	A-3
C3916	A-3
C3919	A-3
C3920	A-3
C3922	A-2
C3925	A-3
C3928	B-3
C3931	B-2
C3933	B-2
C3934	A-3
C5810	A-1
C5812	A-1
CN5801	A-1
CN5802	A-2
CN5803	A-2
CN5804	B-3
D3903	B-3
D3904	B-2
D5806	A-1
D5807	B-1
F3900	B-2
L3900	B-3
L3901	B-3
R3901	B-2
R3902	B-2
R3903	B-3
R3904	B-3
R3905	A-3
R3906	B-2
R3908	B-3
R3909	A-3
R3910	A-2
R3911	A-3
R3917	A-3
R3918	A-3
R3938	B-2
R3939	B-2
R5805	A-1
R5806	A-1
R5835	A-1
R5836	A-1
R5837	A-1
R5840	A-1
R5841	A-1
R5845	A-2
VDR801	A-2
VDR803	A-1

CF-69 BOARD
(SIDE A)

CN003	E-1
CN008	B-1
D009	E-4
R001	D-6
R002	B-5
R003	C-6
R004	D-7
R005	E-3
R006	D-6
R007	B-5
R008	C-6
R009	D-7
R014	D-7
R015	D-6
R016	B-5
R017	C-6
R020	D-6
R021	A-6
R022	C-5
R023	D-7
R024	D-5
R025	B-6
R026	C-5
R027	C-7
R030	B-6
R031	D-4
R032	B-7
R038	B-6
R039	D-4
R040	A-7
R052	B-5
R053	B-5
R054	C-1
S001	C-6
S002	B-5
S003	D-6
S004	B-4
S005	C-5
S006	E-7
S007	D-6
S008	A-5
S009	C-5
S010	D-5
S011	A-6
S012	B-4
S013	C-7
S014	D-4
S015	A-4
S016	C-4
S017	C-7
S018	B-6
S019	B-7
S020	A-7

CF-69 BOARD
(SIDE B)

BH001	B-3
C001	E-1
CN001	B-4
CN002	E-1
CN004	C-1
CN005	B-1
CN006	A-2
CN007	B-2
D001	E-1
D005	A-7
D006	A-7
D008	A-3
L001	B-2
L002	B-6
L003	A-5
Q002	C-6
Q003	C-6
R010	C-6
R011	C-6
R012	C-6
R013	C-6
R019	C-6
R029	A-6
R043	A-3
R044	A-2
R045	A-3
R048	A-3
R051	A-2

CF-70 BOARD
(SIDE A)

C001	C-2
D001	C-2
D002	B-2
D005	B-2
D006	B-2
R001	A-4
R002	A-3
R003	A-4
R004	A-4
R005	A-3
R006	B-4
R007	A-3
R008	B-4
R009	C-4
R014	B-4
R015	B-4
R016	A-3
R017	B-3
R020	C-4
R021	A-3
R022	B-3
R023	B-4
R024	C-3
R025	A-3
R026	B-3
R027	B-4
R030	A-3
R031	B-3
R033	A-4
R040	A-4
R041	B-3
R042	A-4
R045	A-2
R046	A-2
R047	A-2
S001	B-4
S002	A-3
S003	B-4
S004	A-3
S005	B-3
S006	B-4
S007	C-4
S008	A-3
S009	B-3
S010	C-3
S011	A-4
S012	B-3
S013	B-4
S014	C-3
S015	A-3
S016	B-3
S017	A-4
S019	A-4
S020	A-4
S021	A-4

CF-70 BOARD
(SIDE B)

BH001	A-1
C009	A-3
C010	A-2
C011	B-3
CN001	A-3
CN002	C-1
CN003	C-2
CN004	A-1
CN005	B-1
CN006	A-2
CN007	A-2
CN008	B-1
D008	A-3
D009	C-3
L001	A-2
L002	A-2
L003	B-3
Q002	B-3
Q003	B-3
R010	B-3
R011	B-3
R012	B-3
R013	B-3
R019	B-4
R029	B-2
R050	A-3
R051	A-2
R052	A-3
R053	A-3
R054	B-1

CF-72 BOARD
(SIDE A)

CN009	A-1
D002	C-1
D005	B-1
D006	B-1
D009	C-1
R001	B-1
R002	A-1
R003	B-1
R004	A-1
R005	B-1
R006	B-1
R007	A-1
R008	B-1
R009	A-1
R014	A-1
R015	C-1
R016	A-1
R017	B-1
R020	C-1
R021	A-1
R022	B-1
R024	C-2
R025	A-2
R026	B-2
R030	A-2
R031	B-2
R040	A-2
R041	B-2
S001	B-1
S002	A-1
S003	B-1
S004	A-2
S005	B-1
S007	B-1
S008	A-1
S009	B-1
S010	B-1
S011	A-1
S012	B-2
S014	C-2
S015	A-2
S016	B-2
S019	A-1

CF-72 BOARD
(SIDE B)

BH001	B-1
C001	C-3
C008	A-3
C009	A-2
C010	A-2
CN001	A-3
CN002	C-1
CN003	C-3
CN004	B-1
CN005	B-1
CN006	A-2
CN008	B-2
D001	C-3
D008	A-3
L001	A-3
L002	A-2
L003	A-2
Q002	B-3
Q003	B-3
Q007	B-2
R010	B-3
R011	B-3
R012	B-3
R013	B-3
R019	B-3
R029	A-2
R045	B-2
R046	B-2
R047	B-2
R050	B-1
R051	B-2
R052	A-3
R053	A-3
R054	C-1

VF-141 BOARD
(SIDE A)

C4501	A-1
C4504	A-1
C4510	A-2
C4515	A-2
C4516	A-2
C4517	B-2
C4521	B-2
C4524	B-2
C4527	A-2
CN4502	A-2
D4502	A-2
D4503	B-2
D4504	B-2
FB4505	A-1
IC4502	A-2
L4501	A-1
L4504	A-2
Q4504	A-2
R4505	B-1
R4507	A-1
R4508	A-2
R4522	A-2
R4524	B-2
R4525	B-2
R4529	B-2
R4530	B-1
R4534	A-1
R4542	B-1
R4543	B-2
R4544	A-1

VF-141 BOARD
(SIDE B)

C4503	A-1
C4507	A-1
C4508	A-1
C4509	A-1
C4511	A-2
C4512	A-2
C4513	B-2
C4514	B-2
C4518	B-2
C4519	B-2
C4520	B-2
C4523	A-2
C4526	B-1
C4527	
CN4501	A-1
FB4502	B-2
FB4505	
IC4501	A-2
R4513	B-2
R4515	A-2
R4516	A-2
R4517	A-2
R4518	A-2
R4520	A-2
R4521	A-2
R4526	B-2
R4527	A-2
R4528	A-2

PD-117 BOARD
(SIDE A)

C5504	B-4
C5505	D-5
C5506	D-5
C5507	D-5
C5515	B-4
C5516	B-4
C5520	C-5
C5521	C-3
C5522	C-3
C5523	A-4
C5524	C-4
C5528	C-4
C5530	B-5
C5531	A-5
C5603	C-2
C5607	A-1
CN5501	A-5
CN5502	C-5
CN5604	A-1
CN5701	D-2
CN5702	D-5
CN5703	D-1
CN5704	D-3
CN5705	D-3
D5502	B-4
FB5502	C-4
IC5502	B-4
IC5503	B-4
L5505	B-4
L5601	A-2
Q5502	C-4
Q5503	B-5
Q5504	B-5
Q5505	B-5
Q5506	B-5
R5512	B-4
R5513	B-4
R5516	C-5
R5517	B-5
R5521	B-5
R5553	B-5
R5559	B-4
R5562	B-5
R5563	B-5
R5564	B-5
R5565	B-5
R5566	A-5
R5567	B-5
R5568	C-3
R5569	C-5
R5702	C-5
T5601	B-1

PD-117 BOARD
(SIDE B)

C5501	D-4
C5503	D-5
C5508	B-4
C5509	C-4
C5510	C-5
C5511	C-4
C5512	C-4
C5513	C-5
C5514	B-4
C5517	B-5
C5518	B-5
C5519	B-4
C5527	C-5
C5529	B-4
C5602	C-2
C5604	B-2
C5605	A-2
C5606	A-2
C5608	C-2
C5704	C-3
D5503	B-4
D5601	A-2
D5602	A-1
FB5503	C-4
IC5501	C-4
IC5601	B-3
IC5602	A-2
IC5701	C-3
L5501	D-4
L5504	B-4
Q5501	B-4
Q5601	B-3
Q5602	B-2
Q5603	A-2
Q5604	A-2
R5501	D-5
R5503	D-4
R5504	B-4
R5505	C-5
R5506	C-4
R5507	C-4
R5508	C-4
R5509	C-4
R5510	C-4
R5511	C-4
R5514	B-5
R5515	A-5
R5518	B-5
R5519	A-4
R5520	A-4
R5522	A-5
R5523	B-5
R5524	B-5
R5525	B-5
R5551	B-4
R5557	D-4
R5560	B-4
R5608	B-3
R5609	B-3
R5610	B-2
R5611	A-2
R5612	A-2
R5613	B-2
R5614	B-3
R5616	A-2
R5617	A-2
R5618	A-2
R5704	A-5
R5706	B-5
R5707	D-5
R5708	D-5
R5711	D-3
R5712	C-3
R5714	D-3
S5701	A-5
S5702	B-5
S5703	C-5
S5704	D-5

PD-118 BOARD
(SIDE A)

C5501	A-2
C5503	B-3
C5504	A-3
C5505	B-3
C5506	B-3
C5507	B-3
C5508	A-3
C5509	B-2
C5510	B-2
C5511	A-2
C5512	A-2
C5513	B-2
C5514	B-2
C5515	A-2
C5516	A-2
C5517	B-2
C5518	B-2
C5519	B-2
C5520	B-3
C5521	A-3
C5522	A-3
C5523	A-3
C5524	A-3
C5527	B-3
C5528	B-3
C5529	A-3
C5530	A-3
C5531	A-3
C5602	B-1
C5603	B-1
C5604	A-1
C5605	A-1
C5606	A-1
C5607	A-1
C5704	A-2

CN5501	A-3
CN5502	B-3
CN5604	A-1
CN5701	B-1
CN5702	B-3
CN5703	B-1
CN5704	B-2
CN5705	B-2
CN5707	B-3

D5502	A-2
D5503	B-3
D5601	A-1
D5702	B-3

IC5501	B-2
IC5502	A-3
IC5503	A-3
IC5601	B-1
IC5602	A-1
IC5701	A-2

L5501	B-2
L5502	B-2
L5503	B-1
L5504	B-1
L5505	A-2
L5601	B-1

Q5501	A-3
Q5502	A-3
Q5503	A-3
Q5504	A-3
Q5505	A-3
Q5506	A-3
Q5601	B-2
Q5602	A-1
Q5603	A-1
Q5604	A-1

R5501	B-3
R5503	B-3
R5504	A-3
R5505	B-3
R5506	A-2
R5507	A-2
R5508	A-2
R5509	A-2
R5510	A-2
R5511	A-2
R5512	A-2
R5513	A-2
R5514	A-3
R5515	A-3
R5516	B-3
R5517	A-3
R5518	A-3
R5519	A-2
R5520	A-2
R5521	A-3
R5522	A-3
R5523	A-3
R5524	A-3
R5525	A-3
R5551	A-3
R5553	B-3
R5557	B-3
R5559	B-3
R5560	A-3
R5562	A-3
R5563	A-3
R5564	A-3
R5565	A-3
R5566	A-3
R5567	A-3
R5568	A-3
R5569	B-3
R5608	A-1
R5609	B-2
R5610	A-1
R5611	A-1
R5612	A-1
R5613	A-1
R5614	A-1
R5616	A-1
R5617	A-1
R5618	A-2
R5702	B-3
R5704	B-3
R5706	B-3
R5707	B-3
R5708	B-3
R5712	A-2
R5714	B-3

T5601	A-1

SECTION 5
ADJUSTMENTS

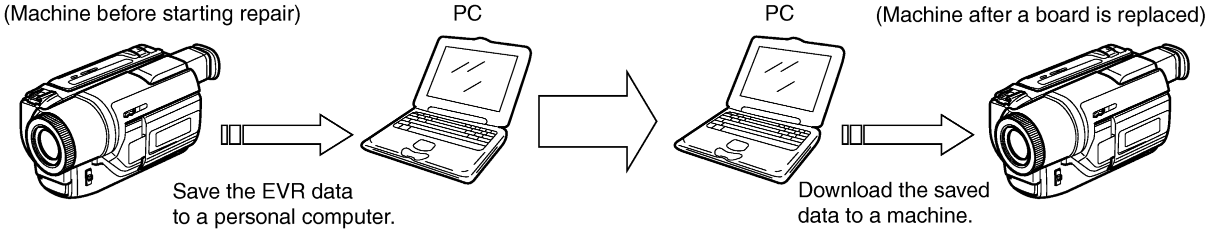
1. Before starting adjustment

EVR Data Re-writing Procedure When Replacing Board

The data that is stored in the repair board, is not necessarily correct.
Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

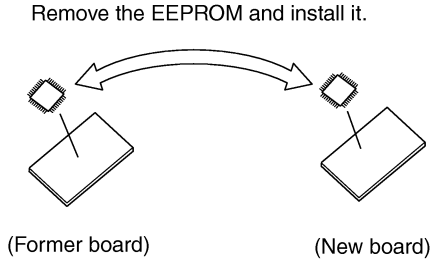
Procedure 1

Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.


(Machine before starting repair)
PC
PC
(Machine after a board is replaced)
Save the EVR data to a personal computer.
Download the saved data to a machine.

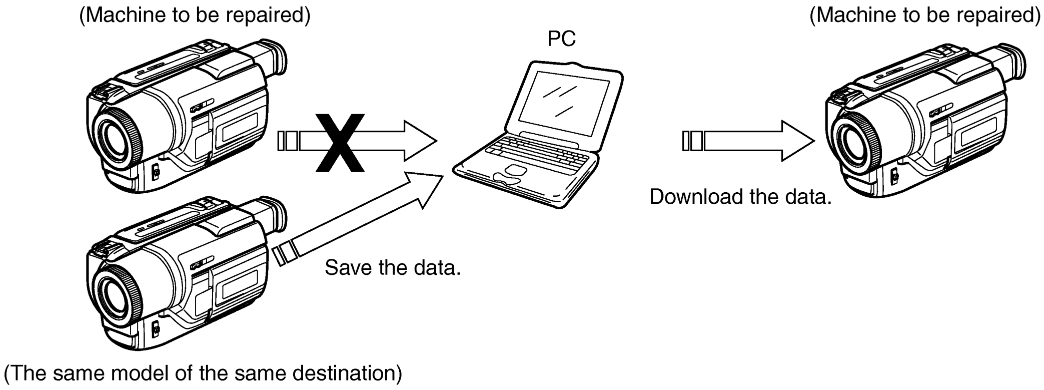
Procedure 2

Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.


Remove the EEPROM and install it.
(Former board)
(New board)

Procedure 3

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.


(Machine to be repaired)
PC
(Machine to be repaired)
Download the data.
Save the data.
(The same model of the same destination)

After the EVR data is saved and downloaded, check the respective items of the EVR data.
(Refer to page 5-3 for the items to be checked)

1-1. Adjusting items when replacing main parts and boards

• Adjusting items when replacing main parts

When replacing main parts, adjust the items indicated by ● in the following table.

		Replaced part																										
		Block replacement								Mounted part replacement																		
Adjustment Section	Adjustment	Lens device	Mechanism deck	B/W CRT EVF block V901 (*1) (Picture tube)	LCD EVF block LCD903 (*2) (LCD panel)	LCD block LCD901 (LCD panel)	LCD block ND901 (Back light)	Mechanism deck M901 (Drum assembly)	Mechanism deck M902 (Capstan motor)	CD-242/244/266/267/270/271 board IC101/151 (CCD imager)	SE-104/112/114 board SE201/202 (PITCH, YAW sensor)	VF-129 board IC901 (*1) (CRT driver)	VF-129 board T901 (*1) (FBT)	VF-141 board IC4501 (*2) (RGB driver)	VF-141 board IC4502 (*2) (Timing generator)	LB-62 board ND4601 (*2) (Back light)	PD-117/118 board IC5501 (RGB driver)	PD-117/118 board IC5502 (Timing generator)	VC-235 board IC1502 (S/H, AGC, A/D CONV.)	VC-235 board IC3103 (REC/PB AMP)	VC-235 board IC3101 (EQ, A/D CONV., PLL)	VC-235 board IC1501 (Timing generator)	VC-235 board IC3701 (VIDEO IN/OUT)	VC-235 board IC3301 (VIDEO DSP, D/A CONV.)	VC-235 board IC2201 (Y/C process)	MI-37 board IC3901 (IR transmitter)	VC-235 board IC5701 (AUDIO IN/OUT)	PC-77 board IC105 (Digital still control)
Initialization of 7, 8, C, D, E, F page data and Modification of B page	Initialization of 8, C, D page data																											
	Initialization of 7, E, F page data																											
	Modification of B page data																											●
Camera	HALL adj.	●																										
	Flange back adj.	●								●																		
	Optical axis adj.	●								●																		
	Color reproduction adj.									●									●									
	AWB & LV standard data input									●									●									
	Auto white balance adj.									●									●									
	Angular velocity sensor sensitivity preset										●																	
B/W CRT EVF (*1)	Centering adj.			●								●	●															
	Focus adj.			●								●	●															
	Aberration adj.			●								●	●															
	Horizontal amplitude adj.			●								●	●															
	Vertical amplitude adj.			●								●	●															
	Brightness adj.			●								●	●															
LCD EVF (*2)	EVF initial data input																											
	VCO adj.													●	●													
	RGB AMP adj.													●														
	Contrast adj.													●										●				
	Backlight consumption current adj.															●												
	White balance adj. (*3)				●									●		●								●				
LCD	LCD initial data input																											
	VCO adj.																●	●										
	RGB AMP adj.																●											
	Contrast adj.																●							●				
	COM AMP adj.																●											
	V-COM adj.					●											●											
	White balance adj.					●	●										●							●				
System control	Node unique ID No. input																											
	Battery end adj.																											
Servo, RF	Reel FG adj.		●																									
	Switching position adj.		●					●																				
	AGC center level adj.																			●	●							
	APC & AEQ adj.																			●	●							
	PLL f_0 & LPF f_0 adj.																			●	●							
	Hi8/Standard8 switching position adj.		●					●																				
	CAP FG duty adj.		●						●																			
Video	27MHz/36MHz origin oscillation adj.																					●						
	Chroma BPF f_0 adj.																						●					
	S VIDEO OUT Y level adj.																						●	●				
	S VIDEO OUT chroma level adj.																						●	●				
	Hi8/Standard8 AFC f_0 adj.																								●			
IR	IR video carrier frequency adj.																									●		
	IR video deviation adj.																									●		
	IR audio deviation adj.																									●		
Audio	Hi8/Standard8 AFM BPF f_0 adj.																										●	
	Hi8/Standard8 AFM 1.5MHz deviation adj.																										●	
	Hi8/Standard8 AFM 1.7MHz deviation adj.																										●	
Mechanism	Tape path adj.		●					●	●																			

Table 5-1-1(1)

• Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

Adjustment Section	Adjustment	Replaced part									
		Board replacement									
		SE-104/112/114 board (COMPLETE)	VF-129 board (*1) (COMPLETE)	VF-141 board (*2) (COMPLETE)	LB-62 board (*2) (COMPLETE)	PD-117/118 board (COMPLETE)	MI-37 board (COMPLETE)	PC-77 board (COMPLETE)	VC-235 board (COMPLETE)	VC-235 board IC4502 (EEP ROM)	VC-235 board IC4901 (EEP ROM)
Initialization of 7, 8, C, D, E, F page data and Modification of B page	Initialization of 8, C, D page data									●	
	Initialization of 7, E, F page data										●
	Modification of B page data							●			
Camera	HALL adj.								●		●
	Flange back adj.								●		●
	Optical axis adj.								●		●
	Color reproduction adj.								●		●
	AWB & LV standard data input								●		●
	Auto white balance adj.								●		●
	Angular velocity sensor sensitivity preset	●							●		●
B/W CRT EVF (*1)	Centering adj.		●								
	Focus adj.		●								
	Aberration adj.		●								
	Horizontal amplitude adj.		●								
	Vertical amplitude adj.		●								
	Brightness adj.		●								
LCD EVF (*2)	EVF initial data input								●	●	
	VCO adj.			●					●	●	
	RGB AMP adj.			●					●	●	
	Contrast adj.			●					●	●	
	Backlight consumption current adj.				●				●	●	
	White balance adj. (*3)			●	●				●	●	
LCD	LCD initial data input								●	●	
	VCO adj.					●			●	●	
	RGB AMP adj.					●			●	●	
	Contrast adj.					●			●	●	
	COM AMP adj.					●			●	●	
	V-COM adj.					●			●	●	
	White balance adj.					●			●	●	
System control	Node unique ID No. input								●	●	
	Battery end adj.								●	●	
Servo, RF	Reel FG adj.								●	●	
	Switching position adj.								●	●	
	AGC center level adj.									●	
	APC & AEQ adj.									●	
	PLL f_0 & LPF f_0 adj.									●	
	Hi8/Standard8 switching position adj.								●		●
	CAP FG duty adj.								●		●
Video	27MHz/36MHz origin oscillation adj.										●
	Chroma BPF f_0 adj.									●	
	S VIDEO OUT Y level adj.									●	
	S VIDEO OUT chroma level adj.									●	
	Hi8/Standard8 AFC f_0 adj.										●
IR	IR video carrier frequency adj.						●		●		●
	IR video deviation adj.						●		●		●
	IR audio deviation adj.						●		●		●
Audio	Hi8/Standard8 AFM BPF f_0 adj.										●
	Hi8/Standard8 AFM 1.5MHz deviation adj.										●
	Hi8/Standard8 AFM 1.7MHz deviation adj.										●
Mechanism	Tape path adj.										

Table 5-1-1(2)

Note 1:

*1: CRT EVF model only
(DCR-TRV320/TRV320E: E, HK, AUS, CN
DCR-TRV320P/TRV420E: CN
DCR-TRV520/TRV520E: E, HK, AUS, CN, JE
DCR-TRV520P)

*2: LCD EVF model only
(DCR-TRV320E: AEP, UK, EE, NE, RU
DCR-TRV420E: AEP
DCR-TRV520E: AEP
DCR-TRV525/TRV620E/TRV720/TRV720E)

*3: COLOR LCD EVF model only
(DCR-TRV525/TRV620E/TRV720/TRV720E)

Note 2:

2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	SE board	PD board
2.5 LCD model	SE-104	PD-117
3/3.5 LCD model	SE-112	PD-118
4 LCD model	SE-114	PD-118

Note 3:

720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

		CD board
720H model	2.5 LCD model	CD-242
	3/3.5 LCD model	CD-266
	4 LCD model	CD-270
960H model	2.5 LCD model	CD-244
	3/3.5 LCD model	CD-267
	4 LCD model	CD-271

5-1. CAMERA SECTION ADJUSTMENT

1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

1-1-1. List of Service Tools

- Oscilloscope
- Color monitor
- Vectorscope
- Regulated power supply
- Digital voltmeter
- Frequency counter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
J-2	ND filter 1.0	J-6080-808-A	White balance check
	ND filter 0.4	J-6080-806-A	White balance check
	ND filter 0.1	J-6080-807-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjustment remote commander (RM-95 upgraded). (Note 1)	J-6082-053-B	
J-6	Siemens star chart	J-6080-875-A	For checking the flange back
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	Multi CPC jig	J-6082-311-A	For adjusting the LCD block
J-9	CPC-13 jig	J-6082-443-A	For adjusting the video section
J-10	Power cord (Note 2)	J-6082-223-A	For connecting the battery terminal and DC power supply
J-11	Extension cable (16P, 0.5 mm)	J-6082-357-A	For extension between the CD-242/266/270 board (CN101) and the VC-235 board (CN1501)(720H model) For extension between the CD-244/267/271 board (CN151) and the VC-235 board (CN1501)(960H model)
J-12	Extension cable (100P, 0.5 mm)	J-6082-352-A	For extension between the PC-77 board (CN802) and the VC-235 board (CN1104)
J-13	IR receiver jig	J-6082-383-A	For adjusting the IR transmitter
J-14	Mini pattern box	J-6082-353-B	For adjusting the flange back
J-15	Camera table	J-6082-384-A	For adjusting the flange back

Note 1: If the micro processor IC in the adjustment remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

Note 2: Connect the adjustment remote commander to the LANC jack, and set to HOLD switch to the "ADJ" side.

Note 3: 720H model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720
960H model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

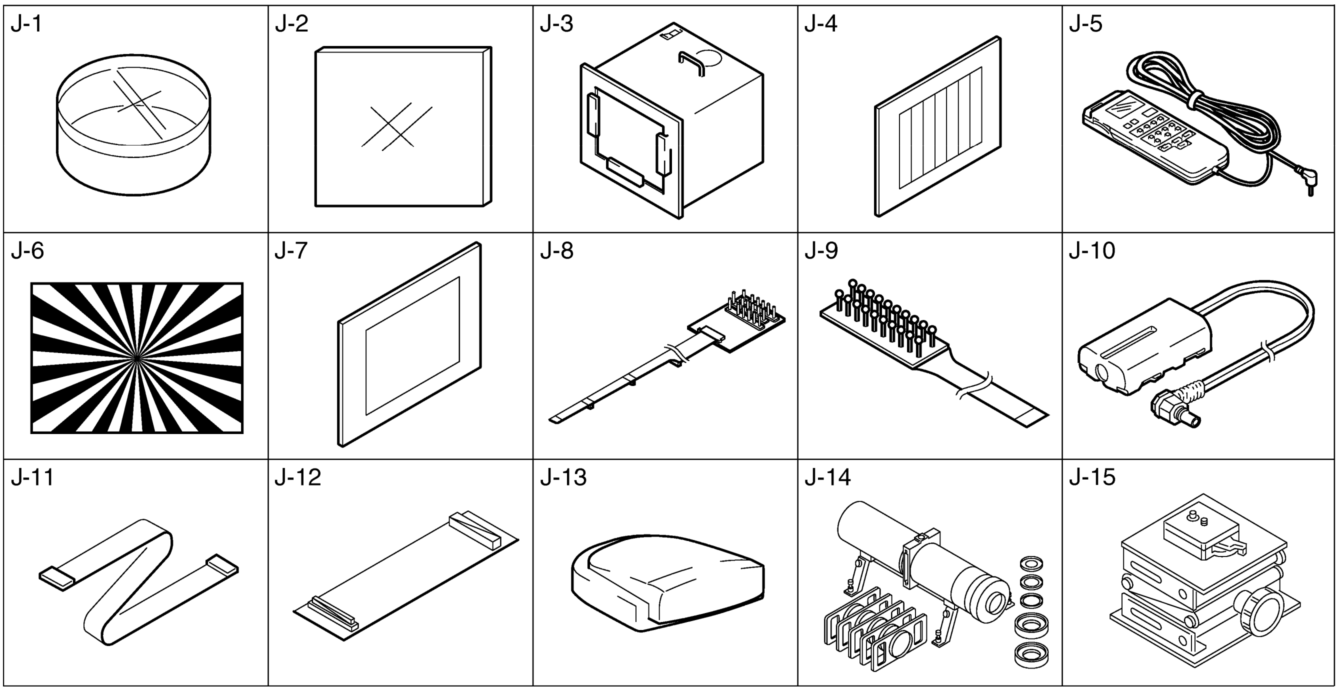


Fig. 5-1-1

1-1-2. Preparations

Note 1: For details of how remove the cabinet and boards, refer to "2. DISASSEMBLY".

Note 2: When performing only the adjustments, the lens block and boards need not be disassembled.

Note 3: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

1) Connect the equipment for adjustments according to Fig. 5-1-3, 4.
2) The front panel block (MI-37 board, focus dial, microphone unit) must be assembled because the focus ring is used for adjustments.

Note 4: As removing the cabinet (R) (removing the VC-235 board CN1105) means removing the lithium 3V power supply (CF-69/70/72 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time, etc.) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use.)

Note 5: Setting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
The above procedure will enable the camera power to be turned on with the power switch (SS-10000 block) removed. After completing adjustments, be sure to exit the "Forced Camera Power ON Mode".

Note 6: Exiting the "Forced Camera Power ON" Mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

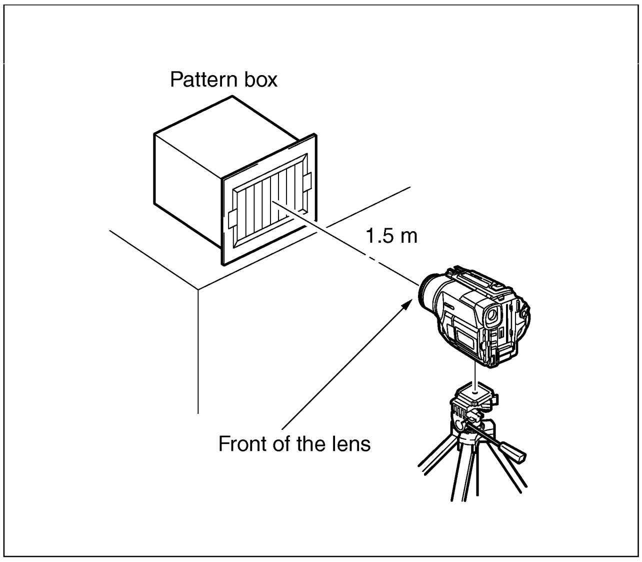
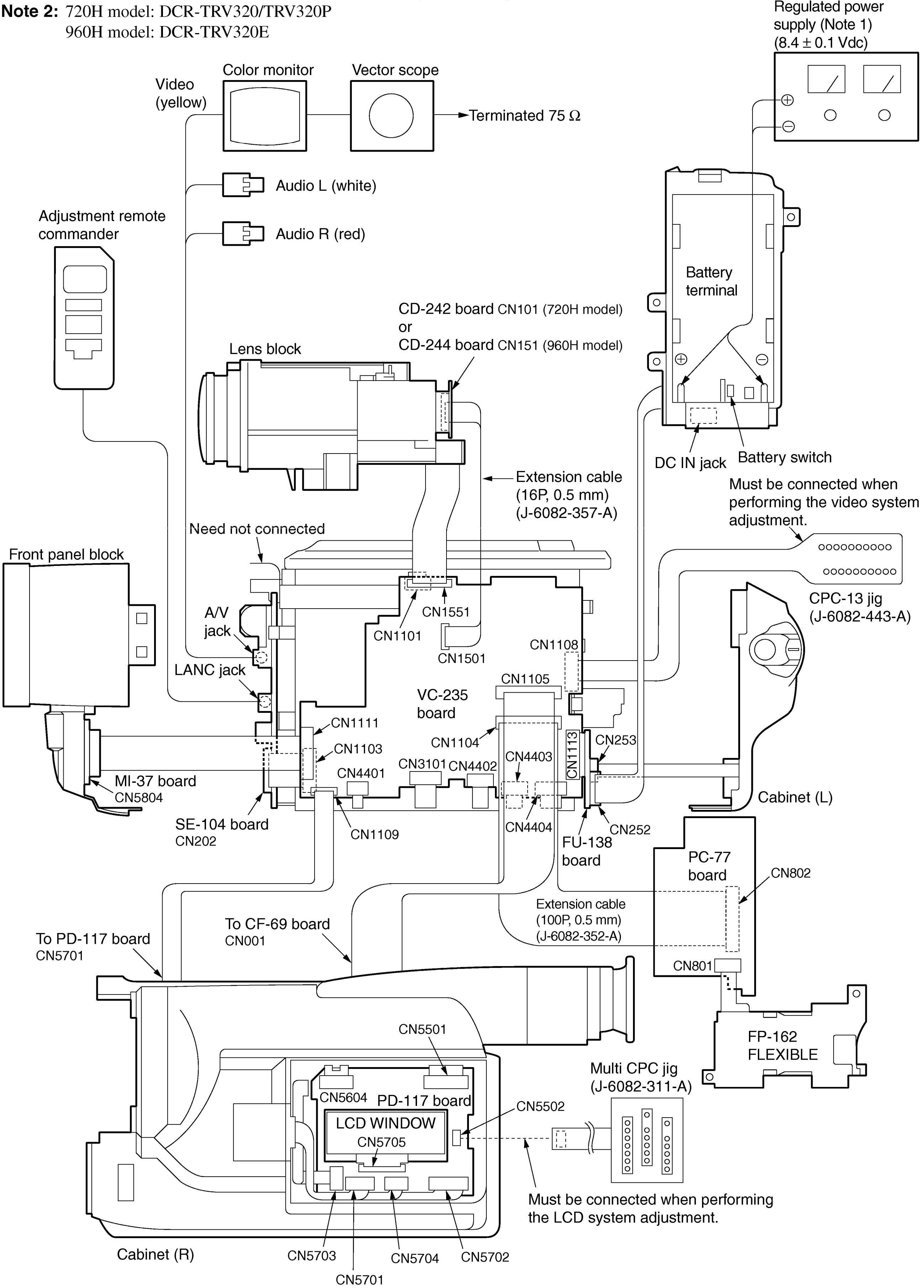


Fig. 5-1-2

2.5 LCD model

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.
Note 2: 720H model: DCR-TRV320/TRV320P
960H model: DCR-TRV320E



Regulated power supply (Note 1) (8.4 ± 0.1 Vdc)
Color monitor
Vector scope
Video (yellow)
Terminated 75 Ω
Audio L (white)
Audio R (red)
Adjustment remote commander
Battery terminal
CD-242 board CN101 (720H model) or CD-244 board CN151 (960H model)
Lens block
DC IN jack
Battery switch
Extension cable (16P, 0.5 mm) (J-6082-357-A)
Must be connected when performing the video system adjustment.
Need not connected
Front panel block
A/V jack
LANC jack
CN1551
CN1101
CN1501
CN1108
CPC-13 jig (J-6082-443-A)
CN1105
VC-235 board
CN1111
CN1103
CN1104
CN1113
CN253
CN3101
CN4402
CN4403
CN4401
MI-37 board CN5804
SE-104 board CN202
CN1109
CN4404
CN252
FU-138 board
Cabinet (L)
PC-77 board
CN802
Extension cable (100P, 0.5 mm) (J-6082-352-A)
To PD-117 board CN5701
To CF-69 board CN001
CN801
FP-162 FLEXIBLE
CN5501
Multi CPC jig (J-6082-311-A)
CN5604
PD-117 board
CN5502
LCD WINDOW
CN5705
Must be connected when performing the LCD system adjustment.
Cabinet (R)
CN5703
CN5704
CN5702
CN5701

Fig. 5-1-3

3/3.5 LCD model

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.

Note 2: 720H model: DCR-TRV520/TRV520P/TRV525
960H model: DCR-TR420E/TRV520E/TRV620E

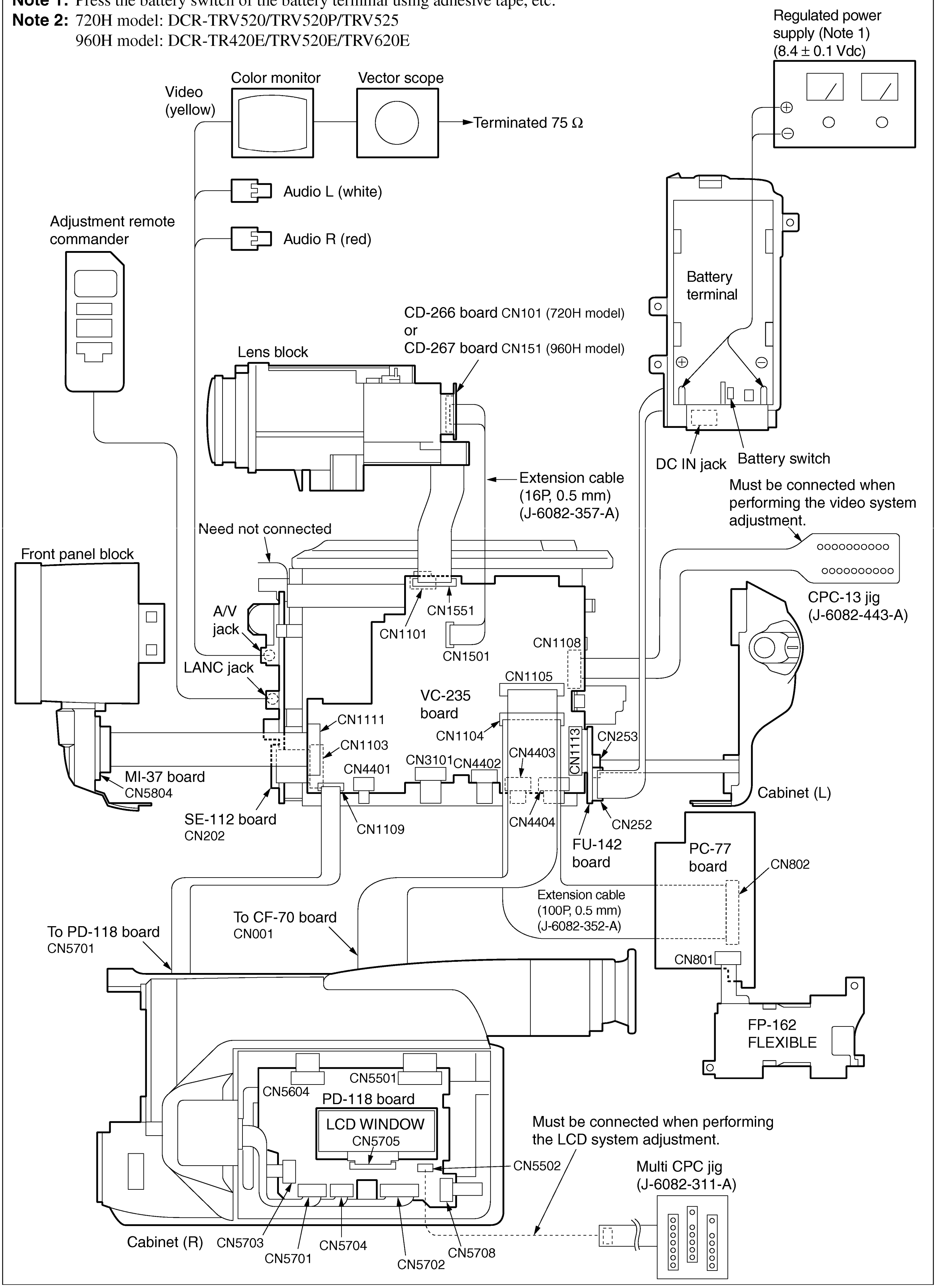
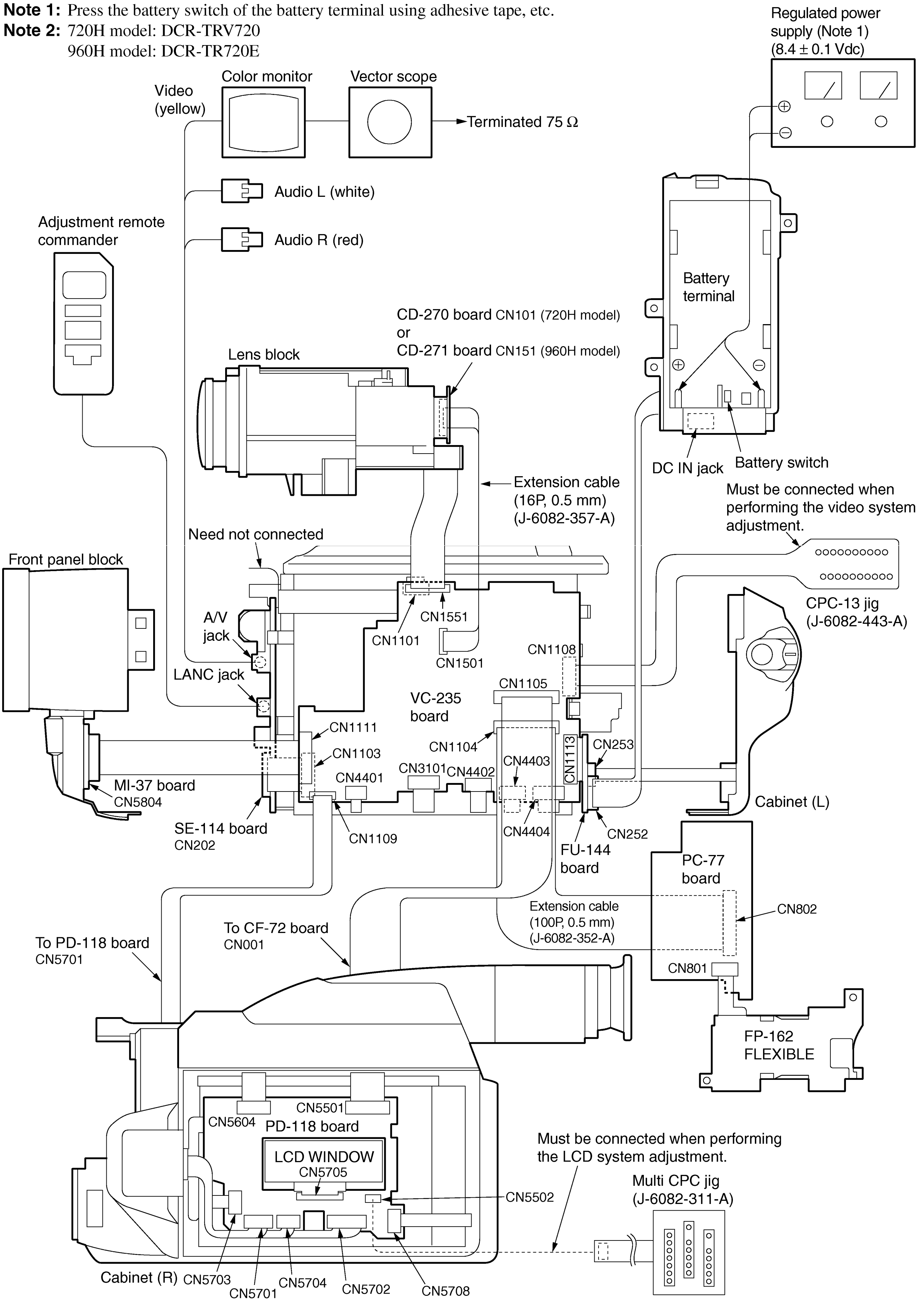

Regulated power supply (Note 1) (8.4 ± 0.1 Vdc)
⊕
⊖
Color monitor
Vector scope
Video (yellow)
Terminated 75 Ω
Audio L (white)
Audio R (red)
Adjustment remote commander
Battery terminal
⊕
⊖
CD-266 board CN101 (720H model)
or
CD-267 board CN151 (960H model)
Lens block
DC IN jack
Battery switch
Extension cable (16P, 0.5 mm) (J-6082-357-A)
Must be connected when performing the video system adjustment.
Need not connected
Front panel block
CPC-13 jig (J-6082-443-A)
A/V jack
CN1551
CN1101
CN1501
CN1108
LANC jack
CN1105
VC-235 board
CN1111
CN1104
CN253
CN1103
CN4403
CN1113
CN3101
CN4402
CN4401
MI-37 board
CN5804
Cabinet (L)
SE-112 board
CN202
CN1109
CN4404
CN252
FU-142 board
PC-77 board
CN802
Extension cable (100P, 0.5 mm) (J-6082-352-A)
To PD-118 board
CN5701
To CF-70 board
CN001
CN801
FP-162 FLEXIBLE
CN5501
CN5604
PD-118 board
LCD WINDOW
CN5705
Must be connected when performing the LCD system adjustment.
CN5502
Multi CPC jig (J-6082-311-A)
Cabinet (R)
CN5703
CN5701
CN5704
CN5702
CN5708

Fig. 5-1-4

4 LCD model

Note 1: Press the battery switch of the battery terminal using adhesive tape, etc.

Note 2: 720H model: DCR-TRV720
960H model: DCR-TR720E



Regulated power supply (Note 1) (8.4 ± 0.1 Vdc)
Color monitor
Vector scope
Video (yellow)
Terminated 75 Ω
Audio L (white)
Audio R (red)
Adjustment remote commander
Battery terminal
CD-270 board CN101 (720H model)
or
CD-271 board CN151 (960H model)
Lens block
DC IN jack
Battery switch
Extension cable (16P, 0.5 mm) (J-6082-357-A)
Must be connected when performing the video system adjustment.
Need not connected
Front panel block
A/V jack
LANC jack
CN1551
CN1101
CN1501
CN1108
CPC-13 jig (J-6082-443-A)
CN1105
VC-235 board
CN1111
CN1103
CN1104
CN4403
CN1113
CN253
CN4401
CN3101
CN4402
MI-37 board
CN5804
SE-114 board
CN202
CN1109
CN4404
CN252
FU-144 board
Cabinet (L)
PC-77 board
CN802
Extension cable (100P, 0.5 mm) (J-6082-352-A)
CN801
To PD-118 board CN5701
To CF-72 board CN001
FP-162 FLEXIBLE
CN5501
CN5604
PD-118 board
LCD WINDOW
CN5705
Must be connected when performing the LCD system adjustment.
Multi CPC jig (J-6082-311-A)
CN5502
Cabinet (R)
CN5703
CN5701
CN5704
CN5702
CN5708

Fig. 5-1-5

1-1-3. Precaution

1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

1. POWER switch (SS-10000 block) .... CAMERA
2. NIGHT SHOT switch (Lens block) .... OFF
3. DEMO MODE (Menu display) .... OFF
4. DIGITAL ZOOM (Menu display) .... OFF
5. STEADY SHOT (Menu display) .... OFF
6. DISPLAY (Menu display) .... V-OUT/LCD
7. DISPLAY (CF-69/70/72 board) .... ON
8. FOCUS switch (MF-10000) .... MANUAL
9. PROGRAM AE (CF-69/70, KP-009 board) .... Auto
10. BACK LIGHT (CF-69/70, KP-009 board) .... OFF
11. PICTURE EFFECT (CF69/70/72 board) .... OFF
12. DIGITAL EFFECT (CF-69/70/72 board) .... OFF
13. 16 : 9 WIDE (MENU display) .... OFF

2. Order of Adjustments

Basically carry out adjustments in the order given.

Color bar chart (Color reproduction adjustment frame)

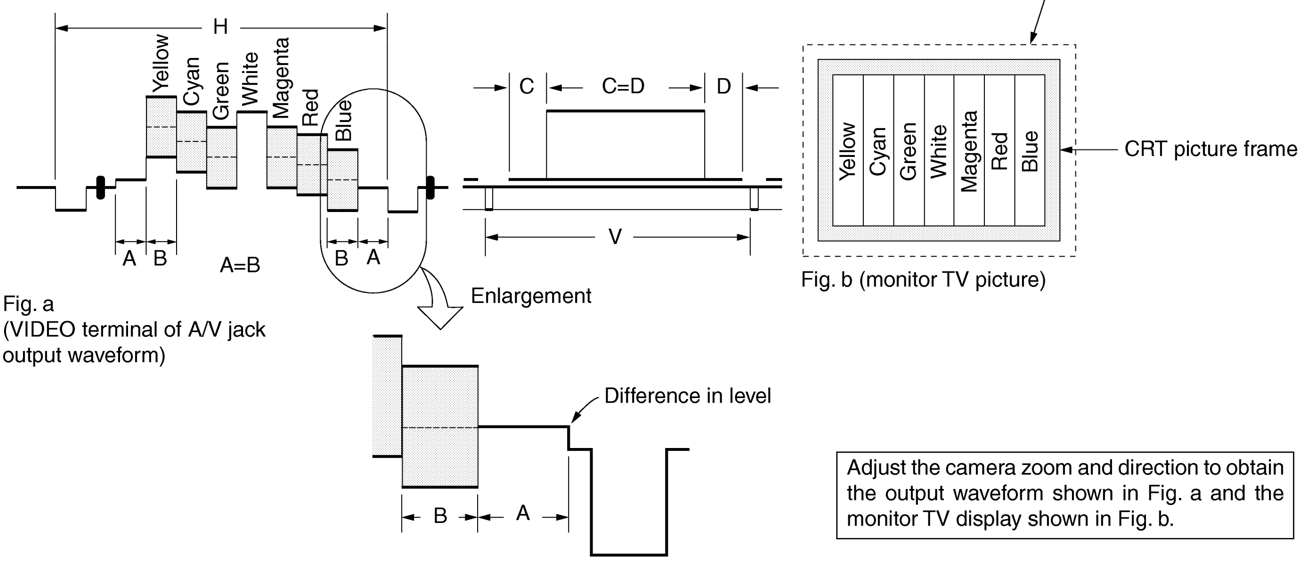

H
Yellow
Cyan
Green
White
Magenta
Red
Blue
A
B
A=B
B
A
C
C=D
D
V
Enlargement
Difference in level
B
A
Electronic beam scanning frame
Yellow
Cyan
Green
White
Magenta
Red
Blue
CRT picture frame

Fig. a
(VIDEO terminal of A/V jack
output waveform)

Fig. b (monitor TV picture)

Adjust the camera zoom and direction to obtain the output waveform shown in Fig. a and the monitor TV display shown in Fig. b.

Fig. 5-1-6

3. Subjects

1) Color bar chart (Color reproduction adjustment frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-6. (Color reproduction adjustment frame)
2) Clear chart (Color reproduction adjustment frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time)
3) Chart for flange back adjustment
   Join together a piece of white A0 size paper (1189mm × 841 mm) and a piece of black paper to make the chart shown in Fig. 5-1-7.

Note: Use a non-reflecting and non-glazing vellum paper. The size must be A0 or larger and the joint between the white and black paper must not have any undulations.

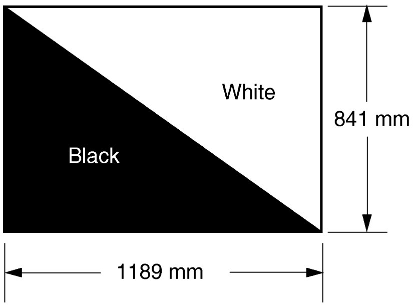

White
Black
841 mm
1189 mm

Fig. 5-1-7

1-2. INITIALIZATION OF 7, 8, C, D, E, F PAGE DATA AND MODIFICATION OF B PAGE DATA

1-2-1. INITIALIZATION OF 8, C, D PAGE DATA

1. Initializing the 8, C, D Page Data

Note 1: If "Initialization of Pages 8, C, D" is executed, all data on pages 8, C and D are initialized. (Only an individual page cannot be initialized)

Note 2: If the 8, C, D page data has been initialized, "Modification of 8, C, D Page Data" and following adjustments need to be performed again.

1) LCD electronic viewfinder system adjustment
2) LCD system adjustment
3) System control system adjustment
4) Servo and RF system adjustment
5) "Chroma BPF f0 adjustment", "S VIDEO OUT Y level adjustment" and "S VIDEO OUT chroma level adjustment" of the video system adjustments.

Adjusting Page	8
Adjusting Address	00 to FF
Adjusting Page	C
Adjusting Address	10 to FF
Adjusting Page	D
Adjusting Address	10 to FF

Initializing Method:

1) Select page: 0, address: 01, and set data: 80.
2) Select page: 3, address: 81, set data: 10, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 80, set data: 0A, and press the PAUSE button of the adjustment remote commander.
4) Select page: 3, address: 80, and check that the data changes to "1A".
5) Select page: 0, address: 01, and set data: 00.
6) Perform "Modification of 8, C, D Page Data".

2. Modification of 8, C, D Page Data

If the 8, C, D page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note : If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of D Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

3. 8 Page Table

Note 1: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, C, D Page Data")

Note 2: Fixed data-2: Modified data. (Refer to "2. Modification of 8, C, D Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 98			Fixed data-1 (Initialized data)
99			Fixed data-2
9A to A2			Fixed data-1 (Initialized data)
A3			Fixed data-2
A4 to A6			Fixed data-1 (Initialized data)
A7			Fixed data-2
A8			
A9 to FF			Fixed data-1 (Initialized data)

4. C Page Table

Note 1: Fixed data-1: Initialized data. (Refer to "1. Initializing the 8, C, D Page Data")

Note 2: Fixed data-2: Modified data. (Refer to "2. Modification of 8, C, D Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	EE	EE	Switching position adj.
11	00	00	
12	00	00	
13	00	00	
14 to 16			Fixed data-1 (Initialized data)
17	E0	E0	Reel FG adj.
18	25	25	APC & AEQ adj.
19	25	25	
1A			Fixed data-1 (Initialized data)
1B	25	25	APC & AEQ adj.
1C	25	25	
1D			Fixed data-1 (Initialized data)
1E	25	25	AGC center level adj.
1F	3E	3E	PLL f_0 & LPF f_0 adj.
20	3E	3E	
21	CA	CA	APC & AEQ adj.
22	99	99	PLL f_0 & LPF f_0 adj.
23, 24			Fixed data-1 (Initialized data)
25	88	88	S VIDEO OUT Y level adj.
26	E3	E3	S VIDEO OUT chroma level adj.
27	A1	A1	
28	04	04	Chroma BPF f_0 adj.
29	20	20	PLL f_0 & LPF f_0 adj.
2A, 2B			Fixed data-1 (Initialized data)
2C	03	03	APC & AEQ adj.
2D, 2E			Fixed data-1 (Initialized data)
2F			Fixed data-2
30	E0	E0	Reel FG adj.
31 to 41			Fixed data-1 (Initialized data)
42			Fixed data-2
43 to 83			Fixed data-1 (Initialized data)
84			Fixed data-2
85			Fixed data-1 (Initialized data)
86			Fixed data-2
87, 88			Fixed data-1 (Initialized data)
89			Fixed data-2
8A to 91			Fixed data-1 (Initialized data)
92			Fixed data-2
93 to 99			Fixed data-1 (Initialized data)
9A			Fixed data-2
9B to A4			Fixed data-1 (Initialized data)
A5			Fixed data-2
A6			
A7 to D5			Fixed data-1 (Initialized data)
D6			Fixed data-2
D7			
D8			
D9			
DA			
DB			
DC			
DD			
DE			
DF			
E0			
E1 to E5			Fixed data-1 (Initialized data)
E6			Fixed data-2
E7			Fixed data-1 (Initialized data)
E8	08	08	Node unique ID No. input
E9	00	00	
EA	46	46	
EB	01	01	
EC	01	01	
ED	00	00	
EE	00	00	
EF	00	00	
F0 to F3			Fixed data-1 (Initialized data)
F4	00	00	Emergency memory address
F5	00	00	
F6	00	00	
F7	00	00	
F8	00	00	
F9	00	00	
FA	00	00	
FB	00	00	
FC	00	00	
FD	00	00	
FE	00	00	
FF	00	00	

5. D Page Table

Note 1: Fixed data-1: Initialized data. (Refer to “1. Initializing the 8, C, D Page Data”)

Note 2: Fixed data-2: Modified data. (Refer to “2. Modification of 8, C, D Page Data”)

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Test mode
11, 12			Fixed data-1 (Initialized data)
13			Fixed data-2
14			
15 to 1A			Fixed data-1 (Initialized data)
1B			Fixed data-2
1C			Fixed data-1 (Initialized data)
1D			Fixed data-2
1E			
1F			
20 to 26			Fixed data-1 (Initialized data)
27			Fixed data-2
28			
29 to 2B			Fixed data-1 (Initialized data)
2C			Fixed data-2
2D to 2F			Fixed data-1 (Initialized data)
30			Fixed data-2
31 to 42			Fixed data-1 (Initialized data)
43			Fixed data-2
44			
45			
46, 47			Fixed data-1 (Initialized data)
48	90	90	Battery end adj.
49	98	98	
4A to 4C			Fixed data-1 (Initialized data)
4D			Fixed data-2
4E to 50			Fixed data-1 (Initialized data)
51			Fixed data-2
52			Fixed data-1 (Initialized data)
53			Fixed data-2
54 to 59			Fixed data-1 (Initialized data)
5A			Fixed data-2
5B			
5C			
5D to 65			Fixed data-1 (Initialized data)
66			Fixed data-2
67			
68			
69			
6A to 83			Fixed data-1 (Initialized data)
84			Fixed data-2
85, 86			Fixed data-1 (Initialized data)
87			Fixed data-2
88 to 8D			Fixed data-1 (Initialized data)
8E			Fixed data-2
8F			

Address	Initial value		Remark
	NTSC	PAL	
90, 91			Fixed data-1 (Initialized data)
92	80	80	VCO adj. (LCD EVF)
93	–	70	Fixed data-1 (NTSC model) / VCO adj. (LCD EVF) (PAL model)
94			Fixed data-1 (Initialized data)
95	A0	A0	RGB AMP adj. (LCD EVF)
96			Fixed data-1 (Initialized data)
97	80	80	White balance adj. (LCD EVF)
98	80	80	
99	30	30	Contrast adj. (LCD EVF)
9A, 9B			Fixed data-1 (Initialized data)
9C	D0	D0	Backlight consumption current adj. (LCD EVF)
9D	10	10	
9E	10	10	
9F to A1			Fixed data-1 (Initialized data)
A2	80	80	VCO adj. (LCD)
A3	–	70	Fixed data-1 (NTSC model) / VCO adj. (LCD) (PAL model)
A4	80	80	V-COM adj. (LCD)
A5	30/20	30/20	RGB AMP adj. (LCD) (Note 3)
A6			Fixed data-1 (Initialized data)
A7	C0/80	C0/80	COM AMP adj. (LCD) (Note 3)
A8	80	80	White balance adj. (LCD)
A9	80	80	
AA	50/30	50/30	Contrast adj. (LCD) (Note 3)
AB			Fixed data-1 (Initialized data)
AC			Fixed data-2
AD			
AE to B3			Fixed data-1 (Initialized data)
B4			Fixed data-2
B5			
B6			
B7, B8			Fixed data-1 (Initialized data)
B9			Fixed data-2
BA			
BB to C3			Fixed data-1 (Initialized data)
C4			Fixed data-2
C5			Fixed data-1 (Initialized data)
C6			Fixed data-2
C7 to CF			Fixed data-1 (Initialized data)
D0			Fixed data-2
D1			
D2, D3			Fixed data-1 (Initialized data)
D4			Fixed data-2
D5			
D6			
D7			
D8 to FF			Fixed data-1 (Initialized data)

Note 3: LCD TYPE S/LCD TYPE C

1-2-2. INITIALIZATION OF 7, E, F PAGE DATA

1. Initializing the 7, E, F Page Data

Note 1: If "Initialization of Pages 7, E, F" is executed, all data on pages 7, E and F are initialized. (Only an individual page cannot be initialized)

Note 2: If the 7, E, F page data has been initialized, "Modification of 7, E, F Page Data" and following adjustments need to be performed again.

1) Camera system adjustments
2) "Hi8/standard 8 mm switching position adjustment" and "CAP FG duty adjustment" of the servo & RF system adjustments
3) "27 MHz/36 MHz origin oscillation adjustment" and "Hi8/standard 8 mm AFC f_0 adjustment" of the video system adjustment
4) IR transmitter adjustments
5) Audio system adjustments

Adjusting Page	7
Adjusting Address	00 to FF
Adjusting Page	E
Adjusting Address	00 to FF
Adjusting Page	F
Adjusting Address	10 to FF

Initializing Method:

1) Select page: 0, address: 01, and set data: 80.
2) Select page: 6, address: 00, and set data: 55 (NTSC) or data: 51 (PAL).
3) Select page: 6, address: 01, set data: 55 (NTSC) or data: 51 (PAL), and press the PAUSE button of the adjustment remote commander.
4) Select page: 6, address: 02, and check that the data is "01".
5) Select page: 0, address: 01, and set data: 00.
6) Perform "Modification of 7, E, F Page Data".

2. Modification of 7, E, F Page Data

If the 7, E, F page data has been initialized, change the data of the "Fixed data-2" address shown in the following tables by manual input.

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note : If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

Processing after Completing Modification of 7, E, F Page data

1) Select page: 2, address: 00, and set data: 29.
2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

3. 7 Page Table

Note 1: Fixed data-1: Initialized data. (Refer to "1. Initializing the 7, E, F Page Data")

Note 2: Fixed data-2: Modified data. (Refer to "2. Modification of 7, E, F Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 05			Fixed data-1 (Initialized data)
06			Fixed data-2
07			
08 to FF			Fixed data-1 (Initialized data)

4. E Page Table

Note 1: Fixed data-1: Initialized data. (Refer to "1. Initializing the 7, E, F Page Data")

Note 2: Fixed data-2: Modified data. (Refer to "2. Modification of 7, E, F Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00, 01			Fixed data-1 (Initialized data)
02			Fixed data-2
03			
04			
05			
06, 07			Fixed data-1 (Initialized data)
08			Fixed data-2
09 to 0D			Fixed data-1 (Initialized data)
0E			Fixed data-2
0F			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
1A to 27			Fixed data-1 (Initialized data)
28			Fixed data-2
29 to 33			Fixed data-1 (Initialized data)
34			Fixed data-2
35			Fixed data-1 (Initialized data)
36			Fixed data-2
37			Fixed data-1 (Initialized data)
38			Fixed data-2
39			
3A to 3C			Fixed data-1 (Initialized data)
3D			Fixed data-2
3E to 42			Fixed data-1 (Initialized data)
43			Fixed data-2
44, 45			Fixed data-1 (Initialized data)
46			Fixed data-2
47			
48			
49 to 50			Fixed data-1 (Initialized data)
51			Fixed data-2
52 to 56			Fixed data-1 (Initialized data)
57			Fixed data-2
58 to 5B			Fixed data-1 (Initialized data)
5C			Fixed data-2
5D			
5E			
5F to 71			Fixed data-1 (Initialized data)
72			Fixed data-2
73 to 7B			Fixed data-1 (Initialized data)
7C			Fixed data-2
7D			
7E			
7F			Fixed data-1 (Initialized data)
80			Fixed data-2
81			
82 to 8B			Fixed data-1 (Initialized data)
8C			Fixed data-2
8D			
8E			
8F			Fixed data-1 (Initialized data)
90			Fixed data-2
91 to 93			Fixed data-1 (Initialized data)
94			Fixed data-2
95 to FF			Fixed data-1 (Initialized data)

5. F Page Table

Note 1: Fixed data-1: Initialized data. (Refer to "1. Initializing the 7, E, F Page Data")

Note 2: Fixed data-2: Modified data. (Refer to "2. Modification of 7, E, F Page Data")

Address	Initial value		Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Emergency memory address
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C			Fixed data-2
1D to 23			Fixed data-1 (Initialized data)
24			Fixed data-2
25			Fixed data-1 (Initialized data)
26			Fixed data-2
27 to 2B			Fixed data-1 (Initialized data)
2C			Fixed data-2
2D			Fixed data-1 (Initialized data)
2E			Fixed data-2
2F to 32			Fixed data-1 (Initialized data)
33			Fixed data-2
34 to 37			Fixed data-1 (Initialized data)
38	68	68	HALL adj.
39	80	80	
3A	8D	8D	
3B			Fixed data-2
3C	80	80	AWB & LV standard data input
3D	7A	7A	
3E	2B	2B	
3F	80	80	
40	65	65	
41	80	80	
42	8D	8D	Auto white balance adj.
43	87	87	
44 to 46			Fixed data-1 (Initialized data)
47	33	33	Color reproduction adj.
48			Fixed data-1 (Initialized data)
49	34	34	Color reproduction adj.
4A to 4C			Fixed data-1 (Initialized data)
4D	8C	8C	27 MHz/36 MHz origin oscillation adj.
4E	2E	2E	Flange back adj.
4F	12	12	
50	48	48	
51	F1	F1	
52	18	18	
53	5D	5D	
54	66	66	
55	00	00	Flange back adj.
56	19	19	
57	00	00	
58	19	19	
59	00	00	
5A	00	00	
5B	04	04	
5C	00	00	
5D	00	00	
5E	69	9C	Angular velocity sensor sensitivity data preset
5F	63	A0	
60	00	00	Optical axis adj.
61	00	00	Flange back adj.
62	0A	0A	Hi8/Standard8 switching position adj.
63	00	00	
64	83	83	CAP FG duty adj.
65	40	40	Hi8/Standard8 AFC f_0 adj.
66			Fixed data-1 (Initialized data)
67			Fixed data-2
68			
69 to 7A			Fixed data-1 (Initialized data)
7B	A6	A6	Hi8/Standard8 AFM 1.5 MHz deviation adj.
7C	94	94	Hi8/Standard8 AFM 1.7 MHz deviation adj.
7D	80	80	Hi8/Standard8 AFM BPF f_0 adj.
7E	41	41	IR video deviation adj.
7F	33	33	IR audio deviation adj.
80	C7	C7	IR video carrier frequency adj.
81 to 8A			Fixed data-1 (Initialized data)
8B			Fixed data-2
8C to 93			Fixed data-1 (Initialized data)
94			Fixed data-2
95 to 97			Fixed data-1 (Initialized data)
98			Fixed data-2
99 to 9B			Fixed data-1 (Initialized data)
9C			Fixed data-2
9D to 9F			Fixed data-1 (Initialized data)
A0			Fixed data-2
A1 to AA			Fixed data-1 (Initialized data)
AB			Fixed data-2
AC to CA			Fixed data-1 (Initialized data)
CB			Fixed data-2
CC			
CD			
CE			Fixed data-1 (Initialized data)
CF			Fixed data-2
D0 to D2			Fixed data-1 (Initialized data)
D3			Fixed data-2
D4 to D6			Fixed data-1 (Initialized data)
D7	FD	FC	Color reproduction adj.
D8	F4	F2	
D9 to DE			Fixed data-1 (Initialized data)
DF			Fixed data-2

Address	Initial value		Remark
	NTSC	PAL	
E0			Fixed data-1 (Initialized data)
E1			Fixed data-2
E2 to F2			Fixed data-1 (Initialized data)
F3			Fixed data-2
F4, F5			Fixed data-1 (Initialized data)
F6			Fixed data-2
F7 to FF			Fixed data-1 (Initialized data)

1-2-3. MODIFICATION OF B PAGE DATA

1. Modification of B Page Data

When replacing PC-77 board or IC105 of PC-77 board, change the data of the "Fixed data-2" address shown in the following tables by manual input.

Mode	Memory
Adjusting Page	B
Adjusting Address	17 to 1A

Modifying Method:

1) Before changing the data, select page: 0, address: 01, and set data: 01.
2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.
   Note : If copy the data built in the different model, the camcorder may not operate.
3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.

Processing after Completing Modification of B Page data

1) Select page: 5, address: 0E, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 5, address: 01, set data: FB, and press the PAUSE button of the adjustment remote commander.
3) Select page: 5, address: 00, set data: 01, and press the PAUSE button of the adjustment remote commander.
4) Select page: 5, address: 0E, and check that the data is "01".
5) Select page: 0, address: 01, and set data: 00.

2. B Page Table

Note: Fixed data-2: Modified data. (Refer to "1. Modification of B Page Data")

Address	Remark
00 to 16	Fixed data-1 (Initialized data)
17	Fixed data-2
18	Fixed data-1 (Initialized data)
19	Fixed data-2
1A	
1B to FF	Fixed data-1 (Initialized data)

1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, Check that the specified values of "27 MHz/36 MHz Origin Oscillation Adjustment", "S VIDEO OUT Y level Adjustment" and "S VIDEO OUT C level Adjustment" of "VIDEO SYSTEM ADJUSTMENT" are satisfied.

1. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and offset.

Subject	Not required
Measurement Point	Display data of page 1
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	38, 39, 3A
Specified Value	88 to 8C during IRIS OPEN 15 to 19 during IRIS CLOSE

Note: Displayed data of page 1 of the adjustment remote commander.

1 : 00 : XX
Display data

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 94, and set data: 8A.
3) Select page: 6, address: 95, and set data: 17.
4) Select page: 6, address: 01, set data: 6D, and press the PAUSE button of the adjustment remote commander. (The HALL adjustment is performed and the adjustment data is stored in page: F, address: 38, 39 and 3A)
5) Select page: 6, address: 02, and check that the data is "01".
6) Select page: 6, address: 01, set data: 00, and press the PAUSE button.

Checking method:

1) Select page: 0, address: 03, and set data: 03.
2) Select page: 6, address: 01, set data: 01, and press the PAUSE button.
3) Select page: 1, and check that the display data (Note) during IRIS OPEN satisfies the specified value.
4) Select page: 6, address: 01, set data: 03, and press the PAUSE button.
5) Select page: 1, and check that the display data during IRIS CLOSE satisfies the specified value.

Processing after Completing Adjustments

1) Select page: 6, address: 94, and set data: 00.
2) Select page: 6, address: 95, and set data: 00.
3) Select page: 0, address: 03, and set data: 00.
4) Select page: 0, address: 01, and set data: 00.
5) Select page: 6, address: 01, set data: 00, and press the PAUSE button.

2. Flange Back Adjustment (Using the minipattern box)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for the minipattern box (Note 1)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Note 1: Dark Siemens star chart.
Note 2: Perform this adjustment after performing "HALL adjustment".

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Preparation for adjustment

The minipattern box is installed as shown in the following figure.
Note: The attachment lenses are not used.

Specified voltage: The specified voltage varies according to the minipattern box, so adjust the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

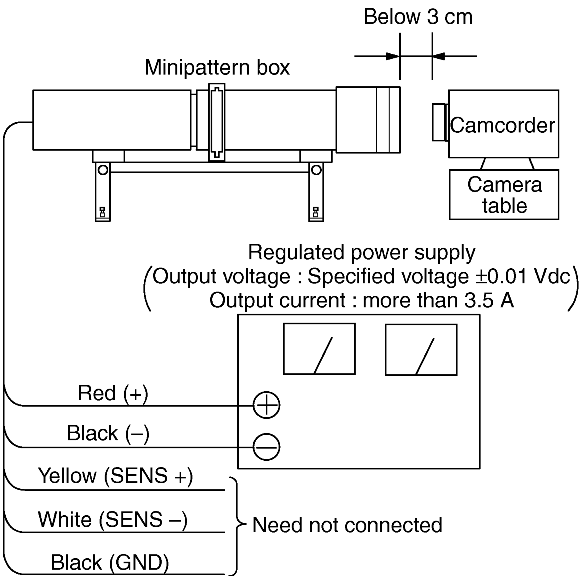


Fig. 5-1-8

Adjusting method:

1) Install the minipattern box so that the distance between it and the front of the lens of the camcorder is less than 3 cm.
2) Make the height of the minipattern box and the camcorder equal.
3) Check that the output voltage of the regulated power supply is the specified voltage ± 0.01 Vdc.
4) Check that at both the zoom lens TELE end and WIDE end, the center of the Siemens star chart and center of the exposure screen coincide.
5) Select page: 0, address: 01, and set data: 01.
6) Select page: 6, address: 82, and set data: 01.
7) Check that the data of page: F, address: 4E to 5D and 61 is the initial value (See table below).

Address	Data	Address	Data
4E	2E	57	00
4F	12	58	19
50	48	59	00
51	F1	5A	00
52	18	5B	04
53	5D	5C	00
54	66	5D	00
55	00	61	00
56	19		

8) Select page: 6, address: 02, and check that the data is "00".
9) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
10) Select page: 6, address: 01, set data: 27, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses: 4E to 5D and 61)
11) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Turn OFF the main power supply (8.4 V).
2) Perform "Flange Back Check".

3. Flange Back Adjustment (Using Flange Back Adjustment Chart Subject More Than 500 m Away)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

3-1. Flange Back Adjustment (1)

Subject	Flange back adjustment chart (2.0 m from the front of the lens) (Luminance: 350 ± 50 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Note : Perform this adjustment after performing "HALL adjustment".

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Adjusting method:

1) Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 82, and set data: 01.
4) Check that the data of page: F, address: 4E to 5D, 61 is the initial value (See table below).

Address	Data	Address	Data
4E	2E	57	00
4F	12	58	19
50	48	59	00
51	F1	5A	00
52	18	5B	04
53	5D	5C	00
54	66	5D	00
55	00	61	00
56	19		

5) Select page: 6, address: 02, and check that the data is "00".
6) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
7) Select page: 6, address: 01, set data: 15, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses:4E to 5D, 61)
8) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Turn OFF the main power supply (8.4 V).
2) Perform "Flange Back Adjustment (2)".

3-2. Flange Back Adjustment (2)

Perform this adjustment after performing "Flange Back Adjustment (1)".

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	4E to 5D, 61

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Adjusting method:

1) Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500 m away should not be in the screen)
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 82, and set data: 01.
4) Select page: 6, address: 02, and check that the data is "00".
5) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
6) Place a ND filter on the lens so that the optimum image is obtain.
7) Select page: 6, address: 01, set data: 29, and press the PAUSE button.
(The adjustment data will be automatically input to page: F, addresses: 4E to 5D, 61)
8) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments

1) Select page: 0, address: 01, and set data: 00.
2) Turn OFF the main power supply (8.4 V).
3) Perform "Flange Back Check".

4. Flange Back Check

Subject	Siemens star (PTB-450) (2.0 m from the front of the lens) (Luminance : approx. 200 lux)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Specified Value	Focused at the TELE end and WIDE end.

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Note: When the auto focus is ON, the lens can be checked if it is focused or not by observing the data on the page 1 of the adjustment remote commander.

1) Select page: 0, address: 03, and set data: 0F.
2) Page 1 shows the state of the focus.

1 : 00 : XX
Odd: Focused
Even: Unfocused

Checking method:

1) Place the Siemens star 2.0 m from the front of the lens.
2) To open the IRIS, decrease the luminous intensity to the Siemens star up to a point before noise appear on the image.
3) Select page: 6, address: 40, and set data: 02.
4) Select page: 6, address: 41, and set data: 01.
5) Shoot the Siemens star with the zoom TELE end.
6) Turn on the auto focus.
7) Check that the lens is focused (Note).
8) Select page: 6, address: 21, and set data: 10.
9) Shoot the Siemens star with the zoom WIDE end.
10) Observe the TV monitor and check that the lens is focused.

Processing after Completing Adjustments

1) Select page: 6, address: 21, and set data: 00.
2) Select page: 6, address: 40, and set data: 00.
3) Select page: 6, address: 41, and set data: 00.
4) Select page: 0, address: 03, and set data: 00.

5. Optical Axis Adjustment

Correct a deviation of optical axis between the lens and the CCD imager.

If deviated, the screen center will be shifted when the lens is zoomed from TELE end to WIDE end.

Subject	Siemens Star (PTB-450)
Measurement Point	Check operation on monitor TV
Measuring Instrument	
Adjustment Page	F
Adjustment Address	60

Note: "Flange Back Adjustment" must be already finished.

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Preparation for adjustment:

1) Play a monoscope portion of the System Check tape (WR5-5ND(NTSC) or WR5-5CD(PAL)).
2) Stick the optical axis deviation specification frame to the monitor screen so that the center of monoscope coincides with the center of specification frame.
3) Select the CAMERA mode.

Adjustment method:

1) Select page:0, address:01, and set data:01.
2) Select page:F, address:60, and set data:00, then press the PAUSE button on the adjusting remote commander.
3) Place the Siemens Star at 2m position away from the lens.
4) Shoot the Siemens Star with the zoom at TELE end.
5) Change the lens direction so that the center of Siemens Star coincides with the center of optical axis deviation specification frame.
6) Shoot the Siemens Star with the zoom at WIDE end.
7) Check on the monitor TV which area the center of Siemens Star exists of the optical axis deviation specification frame.
   At this time, measure the amount of deviation "L1" (distance from the center of Siemens Star to the center of optical axis deviation specification frame).
8) From the following table, read correction data according to the area.

Area	Deviation Phase	Correction Data
1	22.6° to 67.5°	01
2	67.6° to 112.5°	02
3	112.6° to 157.5°	03
4	157.6° to 202.5°	04
5	202.6° to 247.5°	05
6	247.6° to 292.5°	06
7	292.6° to 337.5°	07
8	337.6° to 22.5°	08

9) Select page:F, address:60, and set correction data, then press the PAUSE button on the adjusting remote commander.
10) Shoot the Siemens Star with the zoom at TELE end.
11) Change the lens direction so that the center of Siemens Star coincides with the center of optical axis deviation specification frame.
12) Shoot the Siemens Star with the zoom at WIDE end.
13) Measure the amount of deviation "L2" (distance from the center of Siemens Star to the center of optical axis deviation specification frame).
14) Compare L1 and L2, and make sure that the L2 is smaller than L1.
    If large, select page:F, address:60, and set data:00, then press the PAUSE button on the adjusting remote commander.

Processing after completion of adjustment:

1) Select page:0, address:01, and set data:00.

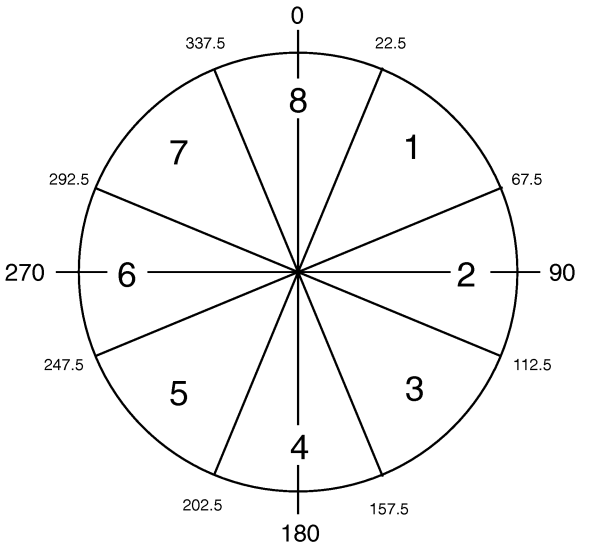


Fig. 5-1-9

6. Picture Frame Setting

Subject	Color bar chart (PTB-450) (Color reproduction adjustment frame) (1.5 m from the front of the lens)
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Oscilloscope and TV monitor
Specified Value	A=B, C=D, E=F

Note: "Flange Back Adjustment" must be already finished.

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Setting method:

1) Select page: 6, address: 82, and set data: 01.
2) Adjust the zoom and the camera direction, and set to the specified position.
3) Select page: 6, address: 82, and set data: 00.
4) Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "Color reproduction adjustment frame".

Check on the oscilloscope

1. Horizontal period

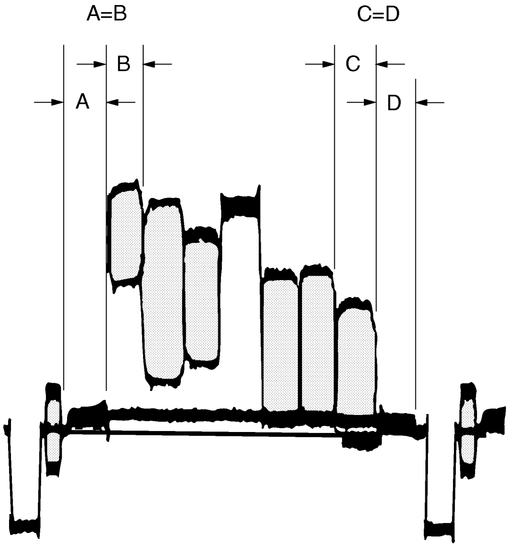


Fig. 5-1-10

2. Vertical period

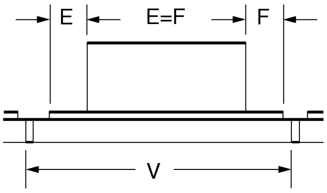


Fig. 5-1-11

Check on the monitor TV (Underscanned mode)

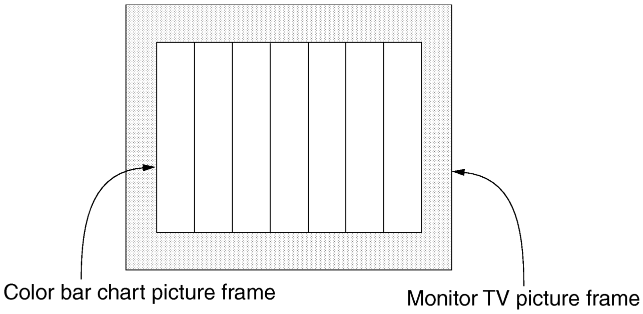


Fig. 5-1-12

7. Color Reproduction Adjustment

Adjust the color Separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (PTB-450) (Color reproduction adjustment frame)
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	47, 49, D7, D8
Specified Value	All color luminance points should settle within each color reproduction frame.

Note: NTSC 720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL 960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

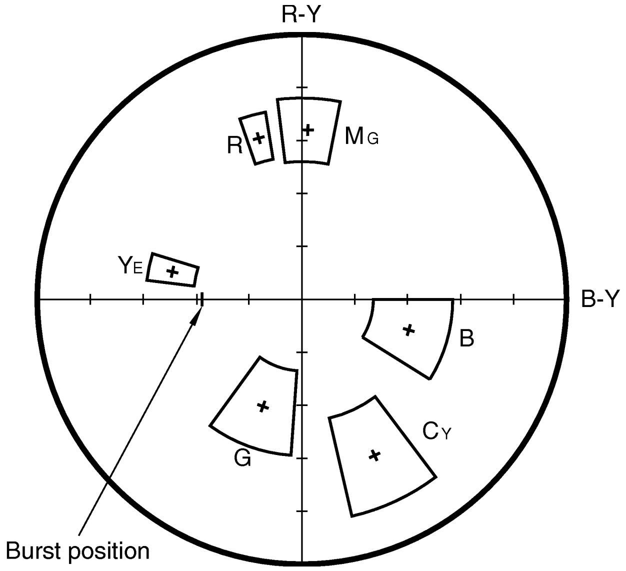
Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 82, and set data: 01.
3) Select page: F, address: 8B. After note down the data of this address, set data: 29 to the address, and press the PAUSE button of the adjustment remote commander.
4) Select page: 6, address: 01, set data: 3D, and press the PAUSE button.
5) Select page: F, address: 2B, set data: 17 (NTSC 720H model) or data: 97 (PAL 960H model), and press the PAUSE button.
6) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
7) Change the data of page: F, address: 47, 49, D7 and D8, and settle each color luminance point in each color reproduction frame.
   Note: Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.
8) Select page: F, address: 8B, and set the data that is noted down at step 3).

Processing after Completing Adjustments

1) Select page: F, address: 2B, set data: 13 (NTSC 720H model) or data: 93 (PAL 960H model), and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
3) Select page: 6, address: 82, and set data: 00.
4) Select page: 0, address: 01, and set data: 00.

NTSC 720H model



PAL 960H model

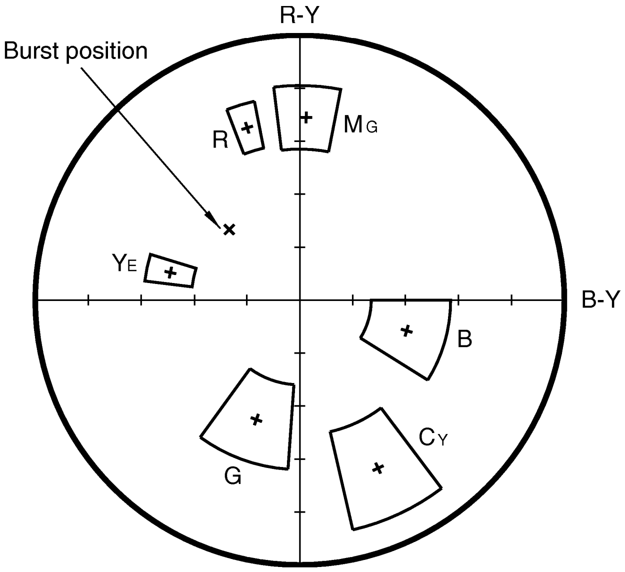


Fig. 5-1-13

8. AWB & LV Standard Data Input

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Adjustment Page	F
Adjustment Address	3C to 41

Note 1: This adjustment should be carried out upon completion of "Color Reproduction Adjustment".

Note 2: Check that the data of page: 6, address: 02 is "00". If not, turn the power of the unit OFF/ON.

Switch setting:
1) NIGHT SHOT ....OFF
2) DIGITAL ZOOM (Menu display) ....OFF
3) STEADY SHOT (Menu display) ....OFF

Adjusting method:
1) Select page: 0, address: 01, and set data: 01.
2) Select page: 6, address: 82, and set data: 01.
3) Wait for 2 seconds.
4) Select page: 6, address: 01, set data: 11, and press the PAUSE button of the adjustment remote commander.
5) Select page: 6, address: 01, set data: 0D, and press the PAUSE button.
   (When the standard data is take in, the data will be automatically input to page: F, address: 3C to 41)
6) Select page: 6, address: 02, and check that the data is "01".

Processing after Completing Adjustments
1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 82, and set data: 00.
3) Select page: 0, address: 01, and set data: 00.
4) Perform "Auto White Balance Adjustment".

9. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.
If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction
Measurement Point	Display data of page 1 (Note2)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	42, 43
Specified Value	NTSC 720H model R ratio: 2A40 to 2AC0 B ratio: 60A0 to 6160 PAL 960H model R ratio: 2C40 to 2CC0 B ratio: 5FA0 to 6060

Note 1: Perform "Auto White Balance Standard Data Input" before this adjustment.

Note 2: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
Display data

Note 3: NTSC 720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL 960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Switch setting:
1) NIGHT SHOT ....OFF
2) DIGITAL ZOOM (Menu display) ....OFF
3) STEADY SHOT (Menu display) ....OFF

Adjusting method:
1) Place the C14 filter for color temperature correction on the lens.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 6, address: 82, and set data: 01.
4) Select page: F, addresses: B8 to BB, and note down the data of each address.
5) Input the following data to page: F, addresses: B8 to BB.

Address		B8	B9	BA	BB
Data	NTSC 720H model	2A	80	61	00
	PAL 960H model	2C	80	60	00

Note: Press the PAUSE button of the adjustment remote commander each time to set the data.

6) Select page: 6, address: 01, set data: A7, and press the PAUSE button.
7) Wait for 2 seconds.
8) Select page: 6, address: 01, set data: A5, and press the PAUSE button.
   (The auto white balance adjustment is performed and the adjustment data is stored in page: F, address: 42 and 43.)
9) Select page: 6, address: 02, and check that the data is "01".
10) Select page: 6, address: 01, set data: 3F, and press the PAUSE button.
11) Select page: 0, address: 03, and set data: 04.
12) Select page: 1, and check that the display data (Note2) satisfies the R ratio specified value.
13) Select page: 0, address: 03, and set data: 05.
14) Select page: 1, and check that the display data (Note2) satisfies the B ratio specified value.
15) Select page: F, addresses: B8 to BB, and input the data noted down at step 3).
    Note: After setting each data, be sure to press the PAUSE button of the adjustment remote commander.

Processing after Completing Adjustments
1) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
2) Select page: 6, address: 82, and set data: 00.
3) Select page: 0, address: 03, and set data: 00.
4) Select page: 0, address: 01, and set data: 00.

10. White Balance Check

Subject	Clear chart (PTB-450) (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction ND filter 1.0, 0.4 and 0.1
Measurement Point	Video output terminal of A/V jack
Measuring Instrument	Vectorscope
Specified Value	Fig. 5-1-14 A to C

Switch setting:

1) NIGHT SHOT .... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

Checking method:

1) Check that the lens is not covered with either filter.
2) Select page: 6, address: 82, and set data: 01.
3) Select page: 6, address: 01, set data: 0F, and press the PAUSE button of the adjustment remote commander.
4) Check that the center of the white luminance point is within the circle shown Fig. 5-1-14 (A).
5) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
6) Select page: 6, address: 01, set data: 23, and press the PAUSE button.
7) Place the C14 filter on the lens.
8) Check that the center of the white luminance point settles in the circle shown Fig. 5-1-14 (B).
9) Remove the C14 filter, and place the ND filter 1.5 (1.0 + 0.4 + 0.1) on the lens.
10) Check that the white luminance point stopped moving, and then remove the ND filter 1.5.
11) Check that the center of the white luminance point settles within the circle shown Fig. 5-1-14 (C).

Processing after Completing Adjustments

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
2) Select page: 6, address: 82, and set data: 00.

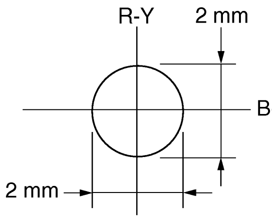


Fig. 5-1-14 (A)

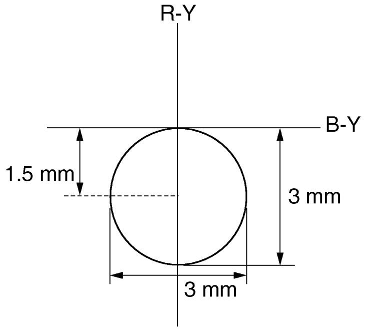


Fig. 5-1-14 (B)

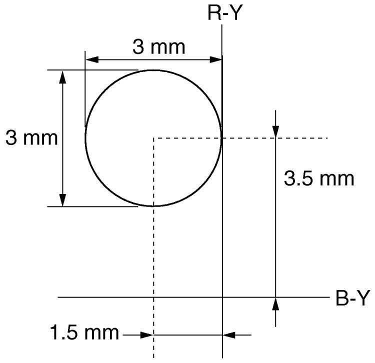


Fig. 5-1-14 (C)

11. Angular Velocity Sensor Sensitivity Data Preset and SteadyShot Check

Check the angular velocity sensor output.

Precautions on the Parts Replacement

There are two types of repair parts.

Type A	ENC03JA
Type B	ENC03JB

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations.

Precautions on Angular Velocity Sensor

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Subject	Not required
Measurement Point	Display data of page 1 (Note 1)
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	5E, 5F
Specified Value	PITCH data: 2900 to 4D00 YAW data: 2900 to 4D00

Note 1: Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX
Display data

Note 2: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 5E, set data: 69 (NTSC model) or 9C (PAL model), and press the PAUSE button.
3) Select page: F, address: 5F, set data: 63 (NTSC model) or A0 (PAL model), and press the PAUSE button.
4) Select page: 0, address: 03, and set data: 11.
5) Select page: 1, and check that the display data (Note 1) during PITCH data satisfies the specified value.
6) Select page: 0, address: 03, and set data: 12.
7) Select page: 1, and check that the display data during YAW data satisfies the specified value.

Processing after Completing Adjustments

1) Select page: 0, address: 03, and set data: 00.
2) Select page: 0, address: 01, and set data: 00.
3) Check that the steady shot operations have been performed normally.

1-4. MONOCHROME CRT ELECTRONIC VIEWFINEDER SYSTEM ADJUSTMENTS (DCR-TRV320/TRV320E/: E, HK, AUS, CN/ TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)

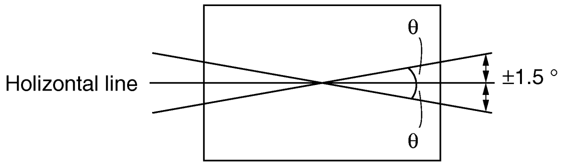
Note: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P
PAL model: DCR-TRV320E/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE

1-4-1. Horizontal Slant Check

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Specified Value	± 1.5°

Adjustment method:

1) Adjust RV904 (BRIGHT) (VF-129 board) so that the CRT can be seen easily and clearly.
2) Check that the difference between the horizontal line and the tilt of black mask satisfies the specified value.



Specified value : The image should be within ± 1.5 ° of the holizontal line.

Fig. 5-1-15

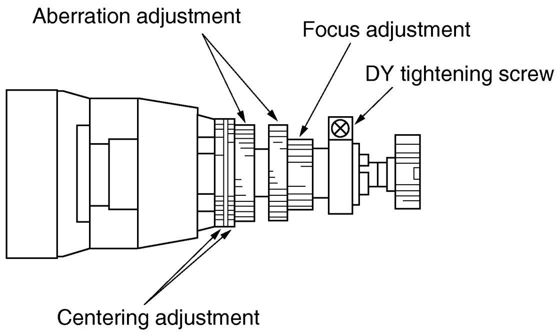


Fig. 5-1-16

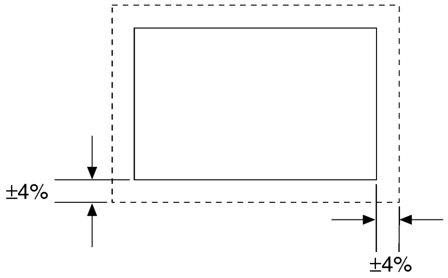
1-4-2. Centering Adjustment

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Specified Value	± 4%

Adjustment method:

1) Use the centering adjustment ring and adjust so that the left, light, top, and bottom sides of the display are uniform. (Refer to Fig. 5-1-15)

   Note: As the centering position changes due to earth magnetism, rotate it 360° in the horizontal direction, and adjust with the center section of the modifying position.



Adjustment value : ±4%

Fig. 5-1-17

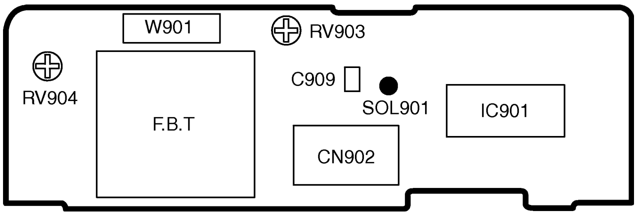
1-4-3. Focus Adjustment

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section

Adjustment method:

1) Adjust the focus ring to obtain the optimum focus. (Refer to Fig. 5-1-15)

VF-129 BOARD



1-4-4. Aberration Adjustment

Mode	VTR stop
Signal	Dot pattern
Specified Value	$b1 \leqq 2 \times a1$ $b2 \leqq 0.8 \times a2$

Adjustment method:

1) Adjust the aberration adjustment ring so that the tracing of the dot satisfies the specified value.
2) If the centering becomes displaced here, perform the centering adjustment from the beginning again.

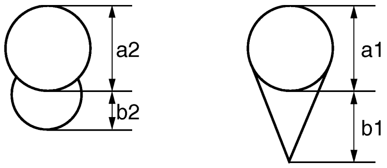


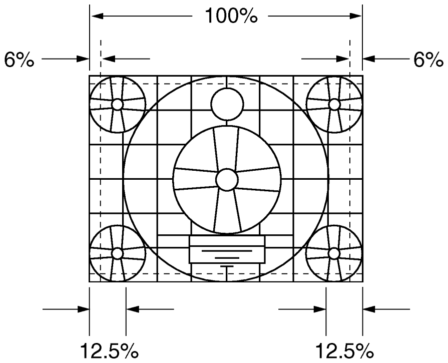
Fig. 5-1-18

1-4-5. Horizontal Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	C909 (SOL901)
Specified Value	12 ± 6%

Adjustment method:

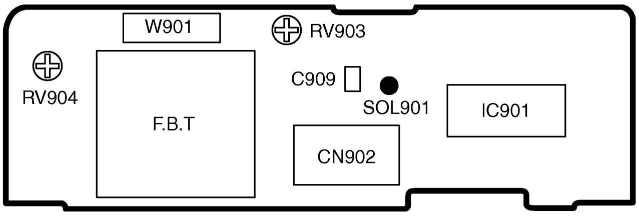
1) Rotate RV903, and adjust the top and bottom side of the monoscope image to the top and bottom edges of the display.
2) Rotate RV904 so that the brightness is the normal level.
3) Solder or unsolder SOL901 pattern of the H size adjustment capacitor (C909) to “short” or “open”, so that the horizontal direction over scan becomes 12 ± 6% (Left and right totals).



SOL901	Size H
Open	Small
Short	Big

Fig. 5-1-19

VF-129 BOARD



1-4-6. Vertical Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV903
Specified Value	10 ± 3%

Adjustment method:

1) Adjust RV903 so that the vertical direction over scan becomes 10 ± 3% (Top and bottom totals).

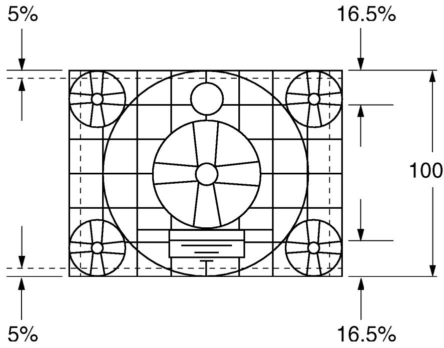
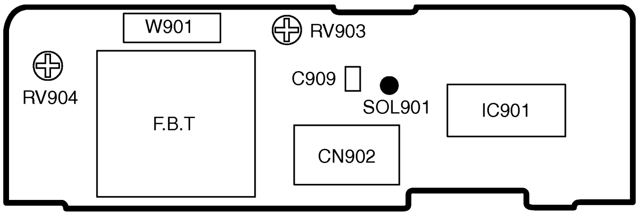


Fig. 5-1-20

VF-129 BOARD



1-4-7. Brightness Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV904

Adjustment method:

1) Rotate RV904, and adjust so that the bright/dark sections of gray scale are displayed correctly. (The bright section should be unsatisfactory till the cross hatch appears vague in the monoscope circle. The dark section should be unsatisfactory till the darkest section of the gray scale cannot be differentiate.)

1-4-8. Horizontal Amplitude, Vertical Amplitude, Focus Check

“1-4-5. Horizontal Amplitude Adjustment” and “1-4-6. Vertical Amplitude Adjustment” should be both satisfy the specified values. If not, perform the adjustments from the beginning again. In this case, perform “1-4-7. Brightness Adjustment” again.
Moreover, check the focus, and if it found to be vague, perform “1-4-3. Focus Adjustment” and “1-4-4. Aberration Adjustment”.

1-5. LCD ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (DCR-TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E/TRV720/TRV720E)

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: COLOR LCD EVF model:
DCR-TRV525/TRV620E/TRV720/TRV720E
B/W LCD EVF model:
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP

[Adjusting connector]

Most of the measuring points for adjusting the viewfinder system are concentrated at VC-235 board CN1108. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). The following table lists the pin numbers and signal names of CN1108.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

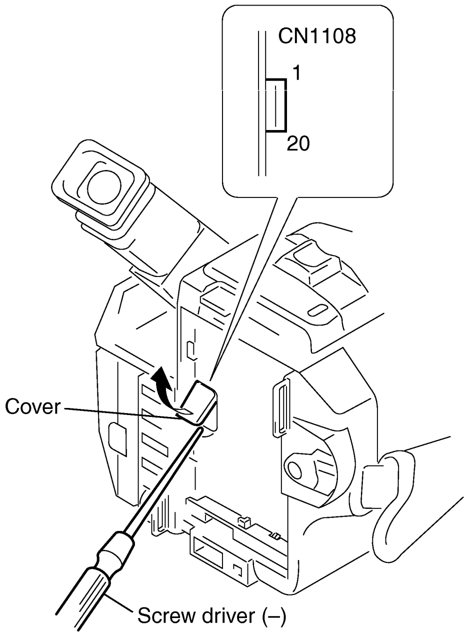


Fig. 5-1-21

1. EVF Initial Data Input (1)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	C
Adjustment Address	9B to A8

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: C, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
3) Select page: 0, address:01, and set data: 00.

Address	Data	Remark
9B	4C	Fixed data
9C	00	
9D	A0	
9E	CE	
9F	64	
A0	24	
A1	00	
A2	80	
A3	12	
A4	0C	
A5	25	
A6	00	
A7	08	
A8	18	

2. EVF Initial Data Input (2)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	92 to 9F, B0, B2

Note: COLOR LCD EVF model:
DCR-TRV525/TRV620E/TRV720/TRV720E
B/W LCD EVF model:
DCR-TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: D, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
3) Select page: 0, address:01, and set data: 00.

Address	Data		Remark
	COLOR	B/W	
92	80	80	VCO adj.
93	70	70	VCO adj. (PAL model) Fixed data (NTSC model)
94	26	26	Fixed data
95	A0	A0	RGB AMP adj.
96	0F	0F	Fixed data
97	80	80	White balance adj. (COLOR LCD EVF model) Fixed data (B/W LCD EVF model)
98	80	80	
99	30	30	Contrast adj.
9A	80	80	Fixed data
9B	90	90	
9C	D0	D0	Backlight consumption current adj.
9D	10	10	
9E	10	10	
9F	1F	18	Fixed data
B0	FC	FC	
B2	FF	FF	

3. VCO Adjustment (VF-141 board)

Set the VCO free-run frequency. If deviated, the EVF screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑪ of CN1108 (VCO) on VC-235 board
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	92 (NTSC model) 92, 93 (PAL model)
Specified Value	f=15734 ± 30 Hz (NTSC model) f=15625 ± 30 Hz (PAL model)

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Adjusting method (NTSC model):

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 92, change the data and set the VCO frequency (f) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

Adjusting method (PAL model):

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 92, change the data, and set the VCO frequency (f) to the specified value.
3) Press the PAUSE button of adjustment remote commander.
4) Read the adjustment data of step 2), and this data is named D_{92}.
5) Convert D_{92} to decimal notation, and obtain D_{92}'.
   (Refer to Table 5-4-1 "Hexdecimal-decimal conversion table" of "5-4. Service Mode")
6) Calculate D_{93}' using following equations (decimal calculation), convert it to a hexdecimal number, and obtain D_{93}.
   $D_{93}' = D_{92}' - 26$
   Note2: If $D_{93}' < 0$, then D_{93} = "00"
7) Select page: D, address: 93, set data D_{93}, and then press the PAUSE button of adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

4. RGB AMP Adjustment (VF-141 board)

Set the D range of the RGB driver used to drive the LCD to the specified value. If deviated, the EVF screen will become blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑫ of CN1108 (EVF VG) on VC-235 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	95
Specified Value	A=7.00 ± 0.1 Vp-p (COLOR LCD EVF model) A=7.40 ± 0.1 Vp-p (B/W LCD EVF model)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 95, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
3) Press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

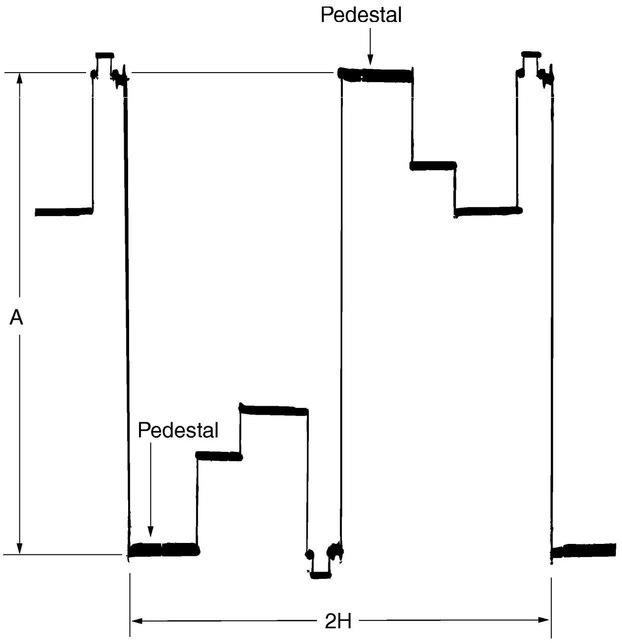


Fig. 5-1-22

5. Contrast Adjustment (VF-141 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑫ of CN1108 (EVF VG) on VC-235 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	99
Specified Value	A=2.40 ± 0.1 Vp-p (NTSC model) A=2.20 ± 0.1 Vp-p (PAL model)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 99, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
   (The data of address: 99, should be “00” to “7F”)
3) Press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

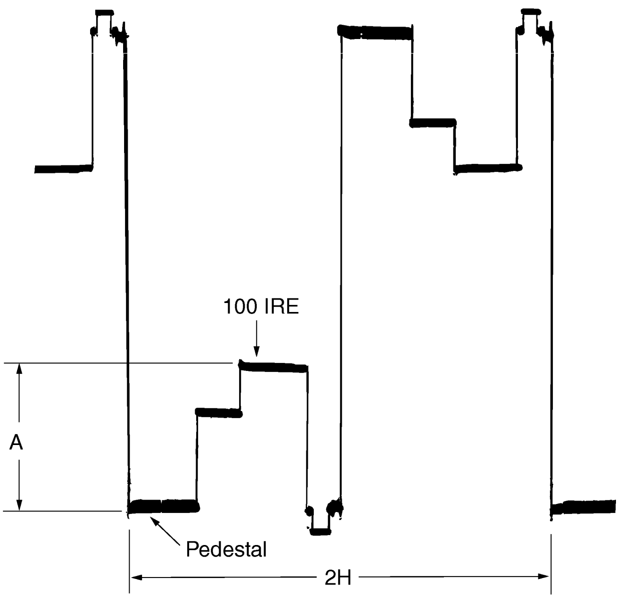


Fig. 5-1-23

6. Backlight Consumption Current Adjustment (VF-141 board)

Set the backlight luminance and color temperature.
If deviated, the image may become dark or bright.

Mode	Camera
Subject	Arbitrary
Measurement Point	+Probe: Pin ⑩ of CN1108 (EVF BL 4.6V on VC-235 board -Probe: Pin ⑨ of CN1108 (EVF BL) on VC-235 board
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	9C, 9D, 9E
Specified Value	COLOR LCD EVF model: BRIGHT mode: A=15.0 ± 1 mV NORMAL mode: A=10.0 ± 1 mV B/W LCD EVF model: BRIGHT mode: A=11.0 ± 1 mV NORMAL mode: A=7.0 ± 1 mV

Note: COLOR LCD EVF model:
DCR-TRV525/TRV620E/TRV720/TRV720E
B/W LCD EVF model:
DCR-TRV320E: AEP, UK, EE, NE, RU/
TRV420E: AEP/TRV520E: AEP

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 9D, change the data, and set the votage difference (A) between Pin ⑩ of CN1108 (EVF BL 4.6V) and Pin ⑨ of CN1108 (EVF BL) to thes pecified value of BRIGHT mode.
   (The data of address: 9D, should be “00” to “3F”)
3) Press the PAUSE button of adjustment remote commander.
4) Read the adjustment data of step 2), and this data is named D_{9D}.
5) Convert D_{9D} to decimal notation, and obtain D_{9D}’.
   (Refer to Table 5-4-1. “Hexdecimal-decimal conversion table” of”5-4. Service Mode”.)
6) Calculate D_{9C}’ using following equations (decimal calculation), convert it to a hexdecimal number, and obtain D_{9C}.
   D_{9C}’=D_{9D}’+192
7) Select page: D, address: 9C, set data D_{9C}, and then press the PAUSE button of adjustment remote commander.
8) Select page: D, address: 9E, change the data, and set the votage difference (A) between Pin ⑩ of CN1108 (EVF BL 4.6V) and Pin ⑨ of CN1108 (EVF BL) to the specified value of NORMAL mode.
   (The data of address: 9D, should be “00” to “1F”)
9) Press the PAUSE button of adjustment remote commander.
10) Select page: 0, address: 01, and set data: 00.

7. White Balance Adjustment (VF-141 board) (DCR-TRV525/TRV620E/TRV720/TRV720E)

Correct the white balance.
If deviated, the EVF screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on EVF display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	97, 98
Specified Value	The EVF screen should not be colored.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 97 and 98, and set the data to the initial value.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
97	80
98	80

3) Check that the EVF screen is not colored. If colored, change the data of page: D, address: 97 and 98 so that the EVF screen is not colored.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
4) Select page: 0, address: 01, and set data: 00.

1-6. LCD SYSTEM ADJUSTMENTS

Note 1: The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

Note 2: When replacing the LCD unit, be careful to prevent damages caused by static electricity.

Note 3: Set the LCD BRIGHT to the center.
Set the LCD COLOR (Menu display) to the center.

Note 4: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	PD board
2.5 LCD model	PD-117
3/3.5/4 LCD model	PD-118

[Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in the following connector.
CN5502 of the PD-117/118 board
Connect the Measuring Instruments via the multi CPC jig (J-6082-311-A).
The following table shows the Pin No. and signal name of the connector.

Pin No.	Signal Name	Pin No.	Signal Name
1	VB	2	XVD OUT
3	VG	4	PANEL COM
5	VR	6	N.C.
7	C-SYNC/XHD	8	XHD OUT
9	GND	10	GND

[LCD type check]

By measuring the resistor value between Pin ⑥ of CN5502 and Pin ⑩ of CN5502, the type of LCD can be discriminated.

PD-117/118 board CN5502

Resistor value	LCD type
1 kΩ	2.5 LCD TYPE S 61 k
1.5 kΩ	2.5 LCD TYPE C 61 k
2.2 kΩ	2.5 LCD TYPE S 123 k
4.7 kΩ	3 LCD TYPE S
5.6 kΩ	3.5 LCD TYPE S
6.8 kΩ	3.5 LCD TYPE C
8.2 kΩ	4 LCD TYPE S
10 kΩ	4 LCD TYPE C

Abbreviation

EE	: East European model
NE	: North European model
RU	: Russian model
HK	: Hong Kong model
AUS	: Australian model
CN	: Chinese model

1. LCD Initial Data Input (1)

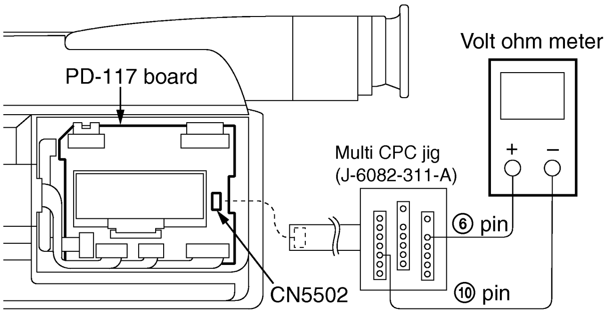
Mode	VTR stop
Signal	Arbitrary
Adjustment Page	C
Adjustment Address	AB to BA

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: C, and input the data in the following table.
   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
3) Select page: 0, address:01, and set data: 00.

Address	Data			Remark
	2.5	3	3.5/4	
AB	53	53	53	Fixed data
AC	00	00	00	
AD	90	90	90	
AE	CB	CB	CB	
AF	66	68	6C	
B0	26	28	2C	
B1	00	00	00	
B2	00	00	00	
B3	20	20	20	
B4	0A	0A	0A	
B5	24	24	24	
B6	1A	1A	1A	
B7	08	0F	0F	
B8	17	17	17	
B9	21	21	21	
BA	23	23	23	

DCR-TRV320/TRV320E/TRV320P



DCR-TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E/TRV720/TRV720E

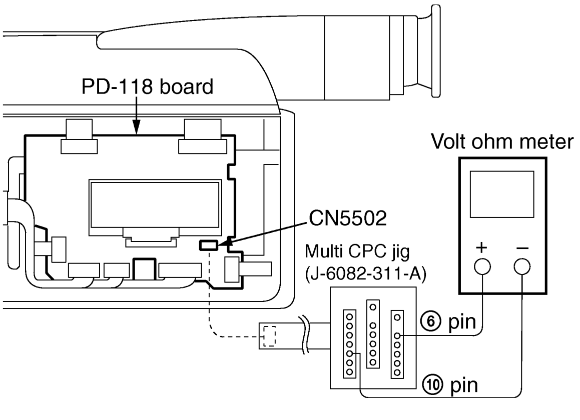


Fig. 5-1-24

2. LCD Initial Data Input (2)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	A0 to AA, AC to B1

Adjusting method:

1) Select page: 0, address:01, and set data: 01.
2) Select page: D, and input the data in the following table.
   Note 1: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
3) Select page: 0, address:01, and set data: 00.

Address	Data		Remark
	TYPE S	TYPE C	
A0	✻	✻	Fixed data (Note 3)
A1	✻	✻	
A2	80	80	VCO adj.
A3	70	70	VCO adj. (PAL model) Fixed data (NTSC model)
A4	80	80	V-COM adj.
A5	30	20	RGB AMP adj.
A6	00	00	Fixed data
A7	C0	80	COM AMP adj.
A8	80	80	White balance adj.
A9	80	80	
AA	50	30	Contrast adj.
AC	✻	✻	Fixed data (Note 3)
AD	✻	✻	
AE	9F	9F	Fixed data
AF	1F	1F	
B0	FC	FC	
B1	FF	FF	

Note 2: ✻ mark data

Address	Data							
	TYPE S					TYPE C		
	2.5		3	3.5	4	2.5	3.5	4
	61 k	123 k				61 k		
A0	78	78	6C	70	7D	78	70	7D
A1	95	95	85	8D	A6	95	8D	A6
AC	14	33	73	53	33	0A	55	33
AD	14	14	14	14	14	0E	13	13

3. VCO Adjustment (PD-117/118 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ⑧ of CN5502 (XHD OUT)
Measuring Instrument	Frequency counter
Adjustment Page	D
Adjustment Address	A2 (NTSC model) A2, A3 (PAL model)
Specified Value	f=15734 ± 30 Hz (NTSC model) f=15625 ± 30 Hz (PAL model)

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Adjusting method (NTSC model):

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A2, change the data and set the VCO frequency (f) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

Adjusting method (PAL model):

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A2, change the data, and set the VCO frequency (f) to the specified value.
3) Press the PAUSE button of adjustment remote commander.
4) Read the adjustment data of step 2), and this data is named DA2.
5) Convert DA2 to decimal notation, and obtain DA2’.
   (Refer to Table 5-4-1 “Hexdecimal-decimal conversion table” of “5-4. Service Mode”)
6) Calculate DA3’ using following equations (decimal calculation), convert it to a hexdecimal number, and obtain DA3.
   2.5 LCD TYPE C 61 k model/
   2.5 LCD TYPE S 61 k model:
   DA3’ = DA2’ – 16

   2.5 LCD TYPE S 123 k model/
   3 LCD TYPE S model/
   4 LCD TYPE C model/
   4 LCD TYPE S model:
   DA3’ = DA2’ – 23

   3.5 LCD TYPE C model/
   3.5 LCD TYPE S model:
   DA3’ = DA2’ – 4

   Note 2: If DA3’ < 0, then DA3 = “00”
7) Select page: D, address: A3, set data DA3, and then press the PAUSE button of adjustment remote commander.
8) Select page: 0, address: 01, and set data: 00.

4. RGB AMP Adjustment (PD-117/118 board)

Set the D range of the RGB driver used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5502 (VG) External trigger : Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	A5
Specified Value	A=3.59 ± 0.05 Vp-p (TYPE S model) A=2.81 ± 0.05 Vp-p (2.5 LCD TYPE C 61 k model) A=3.20 ± 0.05 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A5, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
   (The data of address: A5, should be "00" to "3F")
3) Press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

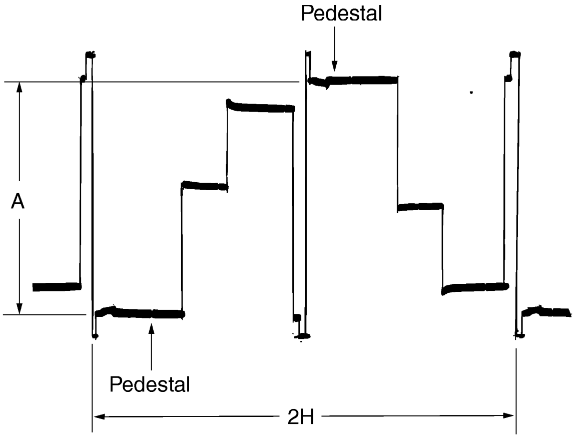


Fig. 5-1-25

5. Contrast Adjustment (PD-117/118 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5502 (VG) External trigger : Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	AA
Specified Value	A=3.47 ± 0.07 Vp-p (TYPE S 61 k model) A=3.34 ± 0.07 Vp-p (TYPE S 123 k model) A=2.80 ± 0.07 Vp-p (2.5 LCD TYPE C 61 k model) A=3.00 ± 0.07 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: AA, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
   (The data of address: AA, should be "00" to "7F")
3) Press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

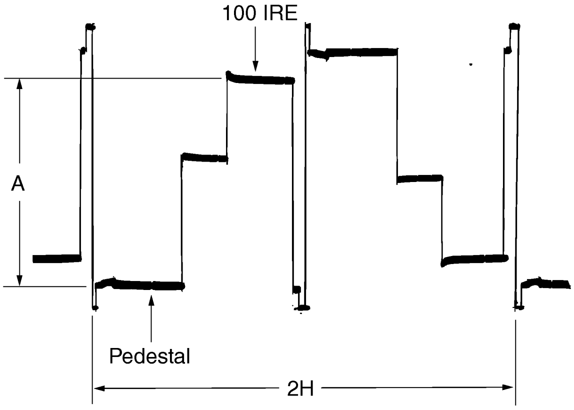


Fig. 5-1-26

6. COM AMP Adjustment (PD-117/118 board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ④ of CN5502 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	A7
Specified Value	A=6.33 ± 0.05 Vp-p (2.5/3/4 LCD TYPE S model) A=6.10 ± 0.05 Vp-p (3.5 LCD TYPE S model) A=5.05 ± 0.05 Vp-p (2.5 LCD TYPE C 61 k model) A=5.50 ± 0.05 Vp-p (3.5/4 LCD TYPE C model)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A7, change the data and set the PANEL COM signal level (A) to the specified value.
3) Press the PAUSE button.
4) Select page: 0, address: 01, and set data: 00.

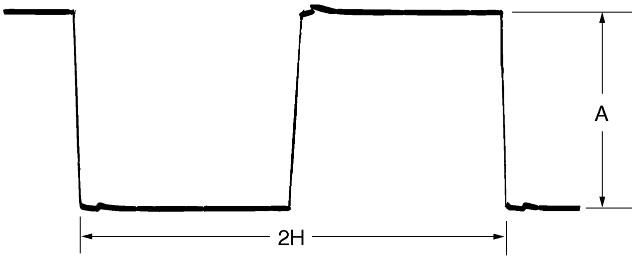


Fig. 5-1-27

7. V-COM Adjustment (PD-117/118 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	A4

Note: Perform "Bright Adjustment" and "Contrast Adjustment" before this adjustment.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A4, change the data so that the brightness of the section A and that of the section B is equal.
3) Read the adjustment data of step 2), and this data is named Dref.
4) Convert Dref to decimal notation, and obtain Dref'.
   (Refer to Table 5-4-1 "Hexdecimal-decimal conversion table" of "5-4. Service Mode")
5) Calculate D_{A4}' using following equations (decimal calculation), convert it to a hexdecimal number, and obtain D_{A4}.
   D_{A4}'=Dref'−8
6) Select page: D, address: A4, set data D_{A4}, and then press the PAUSE button of adjustment remote commander.
7) Select page: 0, address: 01, and set data: 00.

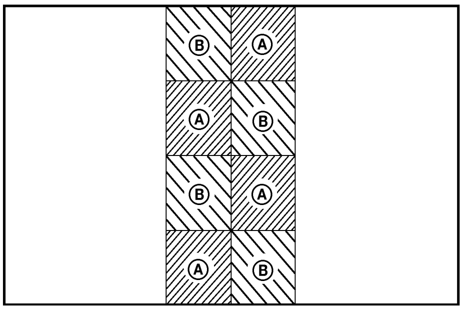


Fig. 5-1-28

8. White Balance Adjustment (PD-117/118 board)

Correct the white balance.
If deviated, the LCD screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	A8, A9
Specified Value	The LCD screen should not be colored.

Note 1: Check the white balance only when replacing the following parts. If necessary, adjust them.

1. LCD panel
2. Light induction plate
3. IC5501

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: A8 and A9, and set the data to the initial value.

   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
A8	80
A9	80

3) Check that the LCD screen is not colored. If colored, change the data of page: D, address: A8 and A9 so that the LCD screen is not colored.

   Note: To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

4) Select page: 0, address: 01, and set data: 00.

5-2. MECHANISM SECTION ADJUSTMENT

Mechanism Section adjustments, checks, and replacement of mechanism parts, refer to the separate volume "8 mm Video Mechanism Adjustment Manual VII B Mechanism ".

Note 1: NTSC model: DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

2-1. Hi8/STANDARD 8 mm MODE

2-1-1. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

1) Refer to "Section 2. DISASSEMBLY" and supply the power with the cabinet assembly removed. (So that the mechanical deck can be operated)
2) Connect the adjustment remote commander to the LANC jack.
3) Turn on the HOLD switch of the adjustment remote commander.
4) Close the cassette compartment without loading a cassette and complete loading.
5) Select page: 0, address: 01, and set data: 01.
6) Select page: F, address: 22, set data: 81, and press the PAUSE button of the adjustment remote commander.
7) Select page: D, address: 10, set data: 10, and press the PAUSE button of the adjustment remote commander.
8) Select page: 2, address: 2E, and set data: 02.
9) Press the PLAY button of the unit.

Note2: Be sure to carry out "Processing after checking Operations" after checking the operations.
Set the data of page: D, address: 10 to "12", if the sensor ineffective mode, forced VTR power supply ON mode is to be used together.

[Procedure after checking operations]

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 2E, and set data: 00.
3) Select page: F, address: 22, set data: 80, and press the PAUSE button of the adjustment remote commander.
4) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
5) Select page: 0, address: 01, and set data: 00.
6) Disconnect the power supply of the unit.

2-1-2. TAPE PATH ADJUSTMENT

1. Preparations for Adjustment

1) Clean the tape path face (tape guide, capstan shaft, pinch roller).
2) Connect the adjustment remote commander to the LANC jack.
3) Turn on the HOLD switch of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 01.
5) Select page: 2, address: 2E, and set data: 02.
6) Select page: F, address: 22, set data: 88, and press the PAUSE button of the adjustment remote commander.
(Be sure to perform "Processing after operation" after completing adjustments)
7) Connect the oscilloscope to VC-235 board CN1108 via CPC-13 jig (J-6082-443-A).
Channel 1: VC-235 board, CN1108 Pin ⑤
External trigger: VC-235 board, CN1108 Pin ⑧
8) Playback Hi8/standard 8 mm alignment tape for tracking.
(WR5-1NP(NTSC))
(WR5-1CP(PAL))
9) Check that the oscilloscope RF waveform is flat at the entrance and exit.
If not flat, adjust according to the separate volume "8 mm Video Mechanical Adjustment Manual VII B Mechanism ".
10) Perform "Processing after operations", after completing adjustment.

CN1108 of VC-235 board

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-2-1

[Procedure after operations]

1) Connect the adjustment remote commander, and turn on the HOLD switch.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 2, address: 2E, and set data: 00.
4) Select page: F, address: 22, set data: 80, and press the PAUSE button of the adjustment remote commander.
5) Select page: 0, address: 01, and set data: 00.
6) Remove the power supply from the unit.

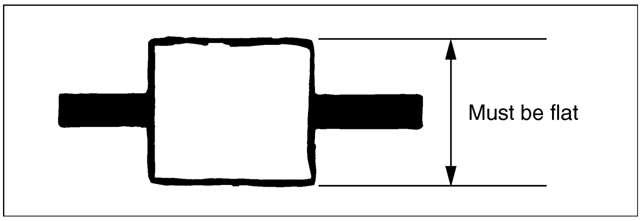


Fig. 5-2-1

2-2. DIGITAL8 MODE

2-2-1. HOW TO ENTER RECORD MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, and set data: 0C, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the record mode automatically)
   Note: The function buttons becomes inoperable.
5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure)

2-2-2. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

1) Connect the adjustment remote commander to the LANC jack.
2) Turn the HOLD switch of the adjustment remote commander to the ON position.
3) Close the cassette compartment without the cassette.
4) Select page: 3, address: 01, and set data: 0B, and press the PAUSE button of the adjustment remote commander.
   (The mechanism enters the playback mode automatically)
   Note: The function buttons becomes inoperable.
5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure)

2-2-3. OVERALL TAPE PATH CHECK

1. Recording of the tape path check signal

1) Clean the tape running side (tape guide, capstan shaft, pinch roller).
2) Connect the adjustment remote commander to the LANC jack.
3) Turn the HOLD switch of the adjustment remote commander to the ON position.
4) Set to the camera recording mode.
5) Select page: 3, address: 1C, set data: 5D, and press the PAUSE button of the adjustment remote commander.
6) Record for several minutes.
7) Release the camera recording mode.
8) Select page: 3, address: 1C, set data: 00, and press the PAUSE button.

2. Tape path check

1) Clean the tape running side (tape guide, capstan shaft, pinch roller).
2) Connect the adjustment remote commander to the LANC jack.
3) Turn the HOLD switch of the adjustment remote commander to the ON position.
4) Connect an oscilloscope to VC-235 board CN1108 via the CPC-13 jig (J-6082-443-A).
   Channel 1: VC-235 board, CN1108 Pin ⑯ (Note)
   External trigger: VC-235 board, CN1108 Pin ⑬
   Note: Connect a 75 Ω resistor between Pins ⑯ of CN1108 and ⑥ (GND).
5) Select page: 2, address: 2E, and set data: 01.
6) Playback the tape path check signal.
7) Select page: 3, address: 33, and set data: 08.
8) Select page: 3, address: 26, and set data: 31.
9) Check that the oscilloscope RF waveform is flat at the entrance and exit.
   If not flat, perform "2-1-2. TAPE PATH ADJUSTMENT " of "2-1. Hi8/STANDARD 8 mm MODE".
10) Select page: 3, address: 26, and set data: 00.
11) Select page: 3, address: 33, and set data: 00.
12) Select page: 2, address: 2E, and set data: 00.

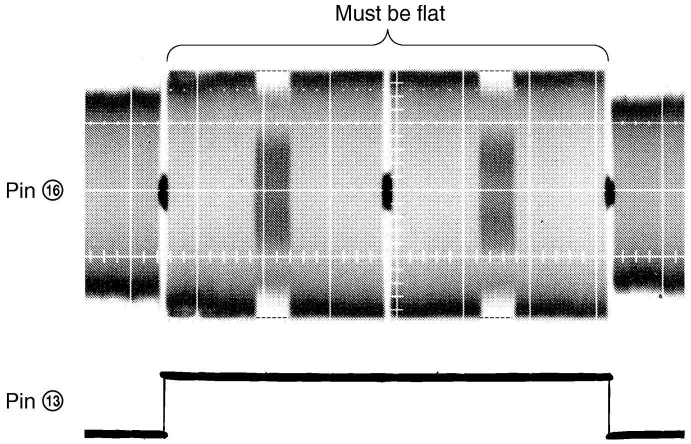


Fig. 5-2-2

5-3. VIDEO SECTION ADJUSTMENT

3-1. PREPARATIONS BEFORE ADJUSTMENTS

Use the following measuring instruments for video section adjustments.

Note: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

3-1-1. Equipment to Required

1) TV monitor
2) Oscilloscope (dual-phenomenon, band width above 30 MHz with delay mode) (Unless specified otherwise, use a 10 : 1 probe)
3) Frequency counter
4) Pattern generator with video output terminal
5) Digital voltmeter
6) Audio generator
7) Audio level meter
8) Audio distortion meter
9) Audio attenuator
10) Regulated power supply
11) Digital8 alignment tapes
    - SW/OL standard (WR5-2D)
      Parts code: 8-967-993-22
    - Audio operation check for NTSC (WR5-3ND)
      Parts code: 8-967-993-32
    - System operation check for NTSC (WR5-5ND)
      Parts code: 8-967-993-42
    - Audio operation check for PAL (WR5-3CD)
      Parts code: 8-967-993-37
    - System operation check for PAL (WR5-5CD)
      Parts code: 8-967-993-47
12) NTSC Hi8/standard 8 mm alignment tapes (For NTSC model)
    - For tracking adjustment (WR5-1NP)
      Parts code: 8-967-995-02
    - For video frequency characteristics adjustment (WR5-7NE)
      Parts code: 8-967-995-13
    - For checking Standard 8 mode operations
      For LP (WR5-4NL)
      Parts code: 8-967-995-51
      For SP (WR5-5NSP)
      Parts code: 8-967-995-42

    Note: The following alignment tapes can also be used.
    WR5-4NSP (8-967-995-41)
    - For checking Hi8 mode operations
      For LP (WR5-8NLE)
      Parts code: 8-967-995-52
      For SP (WR5-8NSE)
      Parts code: 8-967-995-43
    - For Checking AFM stereo operations (WR5-9NS)
      Parts code: 8-967-995-23
    - For BPF adjustment (WR5-11NS)
      Parts code: 8-967-995-71
13) PAL Hi8/standard 8 mm alignment tapes (For PAL model)
    - For tracking adjustment (WR5-1CP)
      Parts code: 8-967-995-07
    - For video frequency characteristics adjustment (WR5-7CE)
      Parts code: 8-967-995-18
    - For checking Standard 8 mode operations
      For LP (WR5-4CL)
      Parts code: 8-967-995-56
      For SP (WR5-5CSP)
      Parts code: 8-967-995-47

    Note: The following alignment tapes can also be used.
    1) WR5-3CL (8-967-995-36)
    2) WR5-4CSP (8-967-995-46)
    - For checking Hi8 mode operations
      For LP (WR5-8CLE)
      Parts code: 8-967-995-57
      For SP (WR5-8CSE)
      Parts code: 8-967-995-48
    - For Checking AFM stereo operations (WR5-9CS)
      Parts code: 8-967-995-28
    - For BPF adjustment (WR5-11CS)
      Parts code: 8-967-995-76
14) Adjustment remote commander (J-6082-053-B)
15) CPC-13 jig (J-6082-443-A)
16) Power code (J-6082-223-A)

    Note: Connect the adjustment remote commander to the LANC jack, and set the HOLD switch to the "ADJ" side.
17) IR receiver jig (J-6082-383-A)

3-1-2. Precautions on Adjusting

1) The adjustments of this unit are performed in the VTR mode or camera mode.
   To set to the VTR mode, set the power switch to "VTR or PLAYER" or set the "Forced VTR Power ON mode" using the adjustment remote commander (Note 1).
   To set to the Camera mode, set the power switch to "CAMERA" or set the "Forced Camera Power ON mode" using the adjustment remote commander (Note 2).
   After completing adjustments, be sure to exit the "Forced VTR Power ON Mode" or "Forced Camera Power ON Mode". (Note 3)
2) The front panel block (MI-37 board, focus dial, microphone unit) need not be connected except during "Battery end adjustment" and "IR transmitter adjustment". To remove, disconnect the following connectors.
   VC-235 board CN1111 (32P 0.5 mm)
3) By setting the "Forced VTR Power ON mode" or "Forced Camera Power ON mode", the video section can be operate even if the cabinet (R) block (Camera function switch (CF-69/70/72 board), LCD block, viewfinder) has been removed. But removing the cabinet (R) block (removing the VC-235 board CN1105) means removing the lithium 3 V power supply (CF-69/70/72 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) block has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc.) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use) To remove the cabinet (R), disconnect the following connectors.
   1. VC-235 board CN1105 (45P, 0.5 mm)
   2. VC-235 board CN1109 (8P, 1.0 mm)
4) The lens block (CD-242/244/266/267/270/271 board) and the intelligent accessory shoe need not be connected except during "Battery end adjustment". To remove, disconnect the following connectors.
   1. VC-235 board CN1501 (16P, 0.5 mm)
   2. VC-235 board CN1551 (24P, 0.5 mm)
   3. Intelligent accessory shoe (8P, 0.8 mm)

Note 1: Setting the "Forced VTR Power ON" mode (VTR mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.
   The above procedure will enable the VTR power to be turned on with the power switch (SS-10000 block) removed.
   After completing adjustments, be sure to exit the "Forced VTR Power ON mode".

Note 2: Setting the "Forced Camera Power ON" mode (Camera mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.
   The above procedure will enable the camera power to be turned on with the power switch (SS-10000 block) removed.
   After completing adjustments, be sure to exit the "Forced Camera Power ON mode".

Note 3: Setting the "Forced Memory Power ON" mode (Memory mode)
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 05, and press the PAUSE button of the adjustment remote commander.
   The above procedure will enable the memory power to be turned on with the power switch (SS-10000 block) removed.
   After completing adjustments, be sure to exit the "Forced Memory Power ON mode".

Note 4: Exiting the "Forced Power ON" mode
1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
3) Select page: 0, address: 01, and set data: 00.

Note 5: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

Note 6: 720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

		CD board
720H model	2.5 LCD model	CD-242
	3/3.5 LCD model	CD-266
	4 LCD model	CD-270
960H model	2.5 LCD model	CD-244
	3/3.5 LCD model	CD-267
	4 LCD model	CD-271

3-1-3. Adjusting Connectors

Some of the adjusting points of the video section are concentrated at VC-235 board CN1108. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). The following table lists the pin numbers and signal names of CN1108.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	F0 ADJ RF IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-3-1

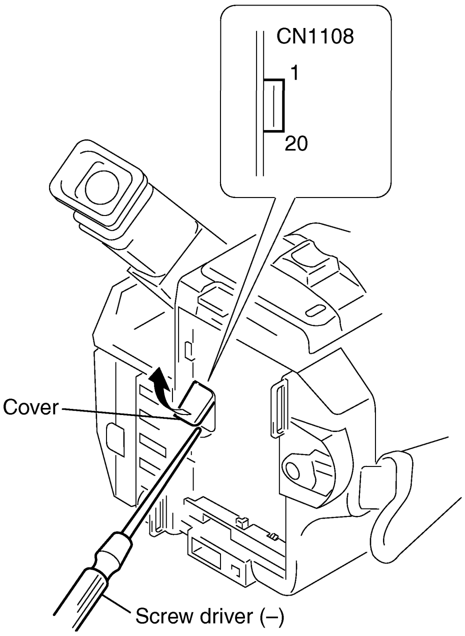

CN1108
1
20
Cover
Screw driver (–)

Fig. 5-3-1

3-1-4. Connecting the Equipment

Connect the measuring instruments as shown in Fig. 5-3-2 and perform the adjustments.

Connecting the TV Monitor and Regulated Power Supply

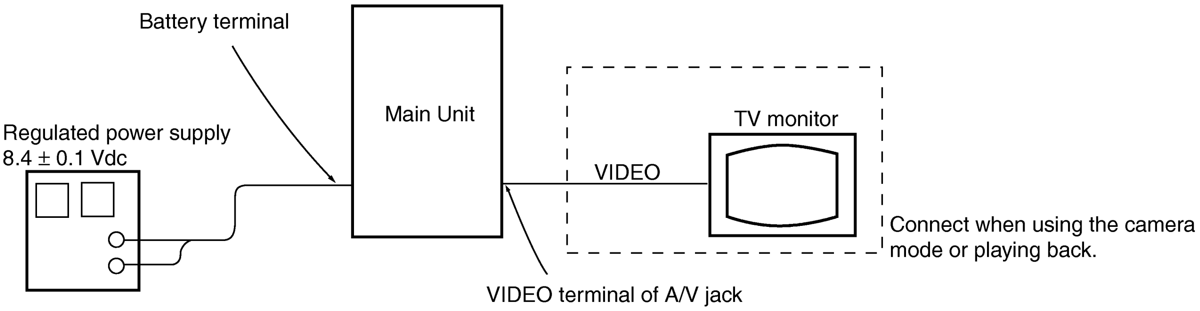

Battery terminal
Main Unit
Regulated power supply
8.4 ± 0.1 Vdc
TV monitor
VIDEO
Connect when using the camera mode or playing back.
VIDEO terminal of A/V jack

Fig. 5-3-2

3-1-5. Alignment Tape

The following table lists alignment tapes which are available.
Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

Digital8 alignment tape

Name	Usage
SW/OL standard (WR5-2D)	Switching position adjustment
Audio operation check (WR5-3ND (NTSC), WR5-3CD (PAL))	Audio system adjustment
System operation check (WR5-5ND (NTSC), WR5-5CD (PAL))	Operation check

Hi8/standard 8 mm alignment tape

Name	Recording mode	Tape type	Tape speed	Usage
Tracking (WR5-1NP (NTSC), WR5-1CP (PAL))	Standard 8 mm	MP	SP	Tape path adjustment, Switching position adjustment
Video frequency characteristics (WR5-7NE (NTSC), WR5-7CE (PAL))	Hi8	ME	SP (NTSC) LP (PAL)	Frequency characteristics adjustment
Operation check (WR5-5NSP (NTSC), WR5-5CSP (PAL))	Standard 8 mm	MP	SP	Operation check
Operation check (WR5-8NSE (NTSC), WR5-8CSE (PAL))	Hi8	ME	SP	
Operation check (WR5-4NL (NTSC), WR5-4CL (PAL))	Standard 8 mm	MP	LP	
Operation check (WR5-8NLE (NTSC), WR5-8CLE (PAL)	Hi8	ME	LP	
AFM stereo operation check WR5-9NS (NTSC), WR5-9CS (PAL)	Standard 8 mm	MP	SP	AFM stereo Operation check
BPF adjustment WR5-11NS (NTSC), WR5-11CS (PAL)	Standard 8 mm	MP	SP	BPF adjustment

Tape type
ME .... Particle type metal tape
MP .... Evaporated type metal tape

Table 5-3-2

Fig. 5-3-3 Shows the color bar signals recorded on the alignment tape.

Note: Measure using the VIDEO terminal (Terminated at 75 Ω).

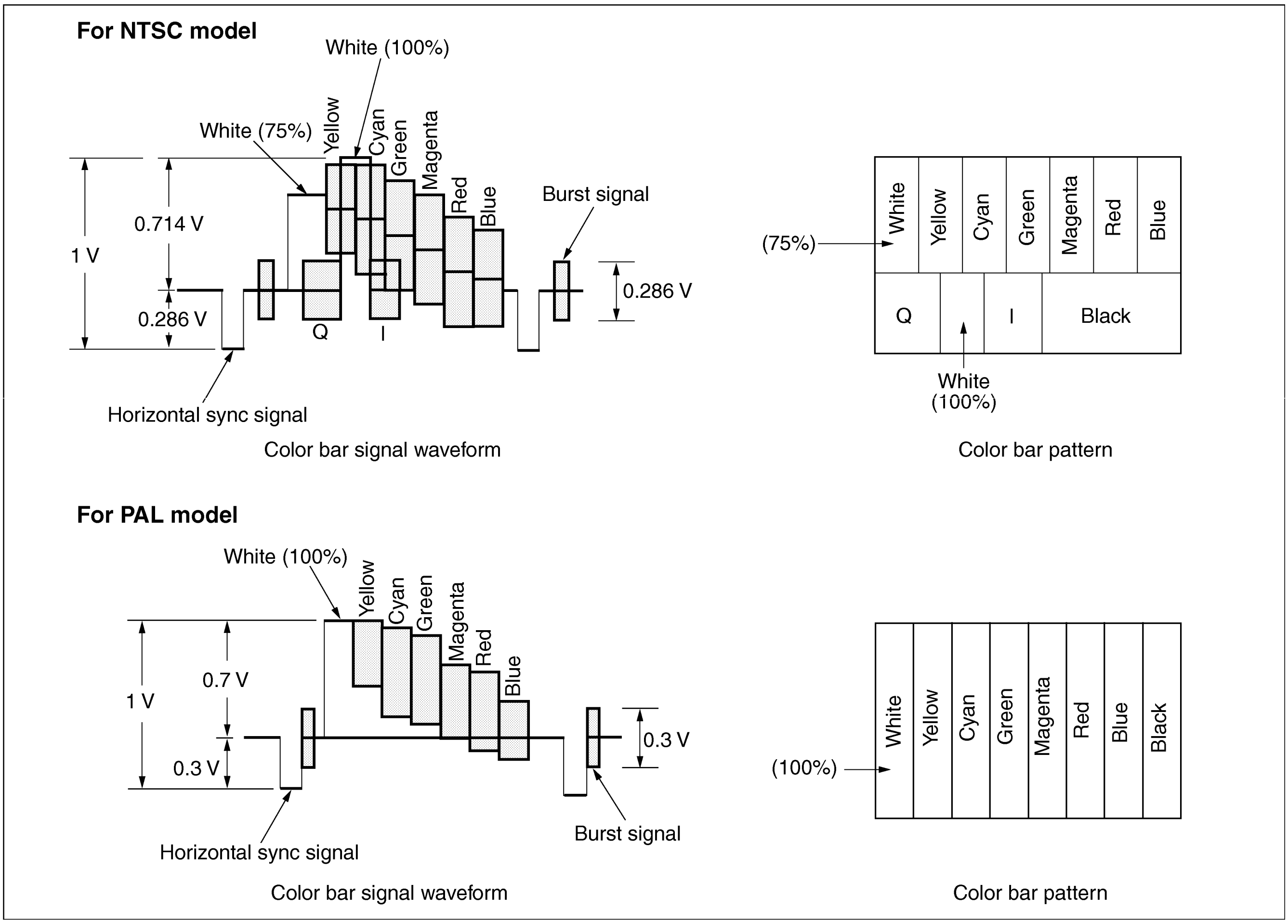

For NTSC model
White (100%)
White (75%)
Yellow
Cyan
Green
Magenta
Red
Blue
Burst signal
1 V
0.714 V
0.286 V
Q
I
0.286 V
Horizontal sync signal
Color bar signal waveform
(75%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Q
I
Black
White
(100%)
Color bar pattern
For PAL model
White (100%)
Yellow
Cyan
Green
Magenta
Red
Blue
1 V
0.7 V
0.3 V
0.3 V
Horizontal sync signal
Burst signal
Color bar signal waveform
(100%)
White
Yellow
Cyan
Green
Magenta
Red
Blue
Black
Color bar pattern

Fig. 5-3-3 Color Bar Signal of the Alignment Tape

3-1-6. Input/output Level and Impedance

Video input/output
    Phono jack, 1 Vp-p, 75 Ω, unbalanced, sync negative
S video input/output
    4-pin mini DIN
    Luminance signal:
        1 Vp-p, 75 Ω, unbalanced, sync negative
    Chrominance signal:
        0.286 Vp-p, 75 Ω, unbalanced (NTSC)
        0.300 Vp-p, 75 Ω, unbalanced (PAL)
Audio input/output
    Phono jack:
    Input: –7.5 dBs, input impedance more than 47 kΩ
    Output: –7.5 dBs, (at load impedance 47 kΩ), output impedance less than 2.2 kΩ

3-2. SYSTEM CONTROL SYSTEM ADJUSTMENT

1. Initialization of 7, 8, C, D, E, F Page Data

If the 7, 8, C, D, E, F page data is erased due to some reason, perform "1-2. INITIALIZATION OF 7, 8, C, D, E, F PAGE DATA", of "5-1. CAMERA SECTION ADJUSTMENT"

2. Node Unique ID No. Input

Note 1: Perform "2-2. Input of Serial No." if the data on page C has been cleared and the node unique ID No. is not found.

2-1. Input of Company ID

Write the company ID to the EEPROM (nonvolatile memory).

Page	C
Address	E8, E9, EA, EB, EC

Input method:

1) Select page: 0, address: 01, and set data: 01.
2) Enter the following data.

Note 2: Each time the data is set, press the PAUSE button on the adjusting remote commander.

Address	Data
E8	08
E9	00
EA	46
EB	01
EC	01

3) Select page: 0, address: 01, and set data: 00.

2-2. Input of Serial No.

Write the serial No. and model code to the EEPROM (nonvolatile memory).

In writing the serial No., a decimal number should be converted into a hexadecimal number.

Page	C
Address	ED, EE, EF

1) Select page: 0, address: 01, and set data: 01.
2) Read the serial No. from the model name label, and it is assumed to be D_1.
   Example: If serial No. is "77881",
   $D_1 = 77881$
3) From Table 5-3-3, obtain D_2 and H_1 that correspond to D_1.
   Example: If $D_1 = 77881$,
   $D_2 = D_1 - 65536 = 12345$
   $H_1 = 00$

D_1 (decimal)	D_2 (decimal) (Service model code)	H_1 (hexadecimal)
00001 to 65535	D_1	00
65536 to 131071	$D_1 - 65536$	00
131072 to196607	$D_1 - 131072$	00
196608 to 262143	$D_1 - 196608$	00

Table 5-3-3

4) Enter H_1 to address: ED on page: C.
   Example: If $H_1 = 00$,
   select page: C, address: ED, and set data: 00, then press the PAUSE button.
5) From Table 5-3-4, obtain the maximum decimal number less than D_2, and it is assumed to be D_3.
   Example: If $D_2 = 12345$.
   $D_3 = 12288$
6) From Table 5-3-4, obtain a hexadecimal number that corresponds to D_3, and it is assumed to be H_3.
   Example: If $D_3 = 12288$,
   $H_3 = 3000$
7) Caluculate D_4 using following equations (decimal caluculation). $(0 \leqq D_4 \leqq 225)$
   $D_4 = D_2 - D_3$
   Example: If $D_2 = 12345$ and $D_3 = 12288$,
   $D_4 = 12345 - 12288 = 57$
8) Convert D_4 into a hexadecimal number to obtain H_4. (See Table 5-4-1 "Hexadecimal - decimal conversion table" in 5-4. Service Mode)
   Example: If $D_4 = 57$,
   $H_4 = 39$
9) Enter higher two digits of H_3 to address: EE on page: C.
   Example: If $H_3 = 3000$,
   select page: C, address: EE, and set data: 30, then press the PAUSE button.
10) Enter H_4 to address: EF on page: D.
    Example: If $H_4 = 39$,
    select page: C, address: EF, and set data: 39, then press the PAUSE button.
11) Select page: 0, address: 01, and set data: 00.

D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3	D_3	H_3
0	0000	8192	2000	16384	4000	24576	6000	32768	8000	40960	A000	49152	C000	57344	E000
256	0100	8448	2100	16640	4100	24832	6100	33024	8100	41216	A100	49408	C100	57600	E100
512	0200	8704	2200	16896	4200	25088	6200	33280	8200	41472	A200	49664	C200	57856	E200
768	0300	8960	2300	17152	4300	25344	6300	33536	8300	41728	A300	49920	C300	58112	E300
1024	0400	9216	2400	17408	4400	25600	6400	33792	8400	41984	A400	50176	C400	58368	E400
1280	0500	9472	2500	17664	4500	25856	6500	34048	8500	42240	A500	50432	C500	58624	E500
1536	0600	9728	2600	17920	4600	26112	6600	34304	8600	42496	A600	50688	C600	58880	E600
1792	0700	9984	2700	18176	4700	26368	6700	34560	8700	42752	A700	50944	C700	59136	E700
2048	0800	10240	2800	18432	4800	26624	6800	34816	8800	43008	A800	51200	C800	59392	E800
2304	0900	10496	2900	18688	4900	26880	6900	35072	8900	43264	A900	51456	C900	59648	E900
2560	0A00	10752	2A00	18944	4A00	27136	6A00	35328	8A00	43520	AA00	51712	CA00	59904	EA00
2816	0B00	11008	2B00	19200	4B00	27392	6B00	35584	8B00	43776	AB00	51968	CB00	60160	EB00
3072	0C00	11264	2C00	19456	4C00	27648	6C00	35840	8C00	44032	AC00	52224	CC00	60416	EC00
3328	0D00	11520	2D00	19712	4D00	27904	6D00	36096	8D00	44288	AD00	52480	CD00	60672	ED00
3584	0E00	11776	2E00	19968	4E00	28160	6E00	36352	8E00	44544	AE00	52736	CE00	60928	EE00
3840	0F00	12032	2F00	20224	4F00	28416	6F00	36608	8F00	44800	AF00	52992	CF00	61184	EF00
4096	1000	12288	3000	20480	5000	28672	7000	36864	9000	45056	B000	53248	D000	61440	F000
4352	1100	12544	3100	20736	5100	28928	7100	37120	9100	45312	B100	53504	D100	61696	F100
4608	1200	12800	3200	20992	5200	29184	7200	37376	9200	45568	B200	53760	D200	61952	F200
4864	1300	13056	3300	21248	5300	29440	7300	37632	9300	45824	B300	54016	D300	62208	F300
5120	1400	13312	3400	21504	5400	29696	7400	37888	9400	46080	B400	54272	D400	62464	F400
5376	1500	13568	3500	21760	5500	29952	7500	38144	9500	46336	B500	54528	D500	62720	F500
5632	1600	13824	3600	22016	5600	30208	7600	38400	9600	46592	B600	54784	D600	62976	F600
5888	1700	14080	3700	22272	5700	30464	7700	38656	9700	46848	B700	55040	D700	63232	F700
6144	1800	14336	3800	22528	5800	30720	7800	38912	9800	47104	B800	55296	D800	63488	F800
6400	1900	14592	3900	22784	5900	30976	7900	39168	9900	47360	B900	55552	D900	63744	F900
6656	1A00	14848	3A00	23040	5A00	31232	7A00	39424	9A00	47616	BA00	55808	DA00	64000	FA00
6912	1B00	15104	3B00	23296	5B00	31488	7B00	39680	9B00	47872	BB00	56064	DB00	64256	FB00
7168	1C00	15360	3C00	23552	5C00	31744	7C00	39936	9C00	48128	BC00	56320	DC00	64512	FC00
7424	1D00	15616	3D00	23808	5D00	32000	7D00	40192	9D00	48384	BD00	56576	DD00	64768	FD00
7680	1E00	15872	3E00	24064	5E00	32256	7E00	40448	9E00	48640	BE00	56832	DE00	65024	FE00
7936	1F00	16128	3F00	24320	5F00	32512	7F00	40704	9F00	48896	BF00	57088	DF00	65280	FF00

Note: D_3: Decimal
H_3: Hexadecimal

Table 5-3-4

3. Battery End Adjustment (VC-235 board)

Set the battery end voltage.
If the voltage is incorrect, the life of the battery will shorten.
The image at the battery end will also be rough.

Mode	Camera recording
Subject	Arbitrary
Measurement Point	LCD display of the adjustment remote commander
Measuring Instrument	
Adjustment Page	D
Adjustment Address	48, 49

Note: The lens block and cabinet (R) must be connected.

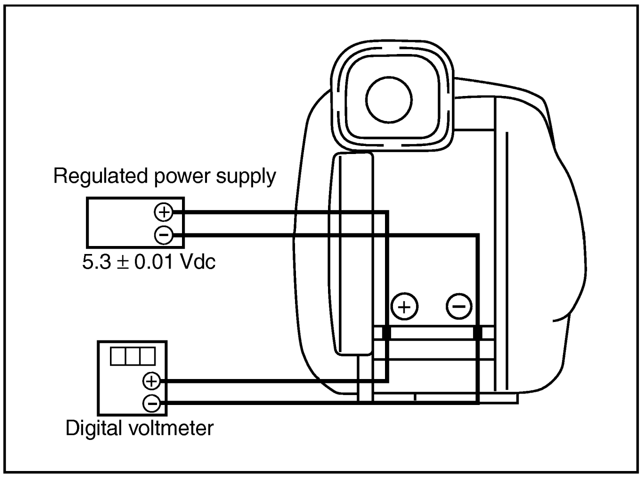


Fig. 5-3-4

Switch setting:

1) AUTO FOCUS ....OFF
2) LCD screen ....Closed
3) NIGHT SHOT ....OFF

Connection:

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-4.

Adjusting method:

1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is 6.1 ± 0.1 Vdc.
2) Turn off the power supply.
3) Turn on the HOLD switch of the adjustment remote commander.
4) Turn on the power supply.
5) Load a cassette, and set to the camera recording mode.
6) Select page: 0, address: 01, and set data: 01.
7) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is 5.30 ± 0.01 Vdc.
8) Select page: 2, address: 5D, read the data, and this data is named Dref.
9) Select page: D, address: 48, set data: Dref, and press the PAUSE button of the adjustment remote commander.
10) Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-4-1 "Hexadecimal-decimal conversion table" of "5-4. Service Mode")
11) Calculate D_{49}' using following equations (decimal calculation), convert it to a hexdecimal number, and obtain D_{49}.
    D_{49}'=Dref'+8
12) Select page: D, address: 49, set data D_{49}, and then press the PAUSE button of adjustment remote commander.
13) Select page: 0, address: 01, and set data: 00.

3-3. SERVO AND RF SYSTEM ADJUSTMENTS

Before perform the servo and RF system adjustments, check that the specified value of “27 MHz/36MHz Origin Oscillation Adjustment” of “3-4. VIDEO SYSTEM ADJUSTMENT” is satisfied.

Adjusting Procedure:

1. REEL FG adjustment
2. PLL f_0 & LPF f_0 Pre-adjustment
3. Switching position adjustment
4. AGC center level adjustment
5. APC & AEQ adjustment
6. PLL f_0 & LPF f_0 final adjustment
7. Hi8/standard 8 mm switching position adjustment
8. CAP FG offset adjustment

1. REEL FG Adjustment (VC-235 board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	17, 30
Specified Value	Bit values of bit 1 and bit 3 are “0”

Adjusting method:

1) Close the cassette compartment without loading a cassette and complete loading.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 01, set data: 1C, and press the PAUSE button of the adjustment remote commander.
4) Select page: 3, address: 02, and check that the data changes to “00”.
5) Select page: 3, address: 03, and check that bit values of bit 1 and bit 3 are “0”.
If bit value of bit 1 and bit 3 is “1”, there are errors. For the error contents, see the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)

Bit value of page: 3, address: 03	Error contents
bit 3 = 1	S REEL is defective
bit 1 = 1	T REEL is defective

6) Select page: 0, address: 01, and set data: 00.

2. PLL f_0 & LPF f_0 Pre-adjustment (VC-235 board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 29
Specified Value	Bit values of bit 2, bit 3 and bit 6 are “0”

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 02, and check that the data changes to “00”.
4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are “0”.
If bit value of bit 2, bit 3 or bit 6 is “1”, there are errors. For the error contents, see the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)

Bit value of page: 3, address: 03	Error contents
bit 6 = 1	LPF f_0 adjustment is defective
bit 3 = 1	PLL f_0, fine adjustment is defective
bit 2 = 1	PLL f_0, fine adjustment is defective

If bit value of bit 2 or bit 3 is “1”, select page: C, address: 21, set the following data, and press the PAUSE button, and repeat steps 2) to 4).

	Setting data
When the data of page: C, address: 21 is “CA”	CE
When the data of page: C, address: 21 is “CE”	C6
When the data of page: C, address: 21 is “C6”	D2
When the data of page: C, address: 21 is “D2”	C2

5) Select page: 0, address: 01, and set data: 00.

3. Switching Position Adjustment (VC-235 board)

To obtain normal playback waveform output, adjust the switching position.

Mode	VTR playback
Signal	Digital8 alignment tape : SW/OL standard (WR5-2D)
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	10, 11, 12, 13
Specified Value	00

Adjusting method:

1) Insert the Digital8 SW/OL reference tape and enter the VTR STOP mode.
2) Select page: 0, address: 01, and set data: 01.
3) Select page: 3, address: 21, and check that the data is “02”.
   Note: If the data of page: 3, address: 21 is other than “72”, the tape top being played. After playing the tape for 1 to 2 seconds, perform step 4) and higher.
   If the data of page: 3, address: 21 is other than “62”, the tape end being played. After rewind the tape, perform step 4) and higher.
4) Select page: 3, address: 01, set data: 0D, and press the PAUSE button of the adjustment remote commander.
5) Select page: 3, address: 02, wait data for stable condition as “00”.
6) Select page: 3, address: 03, and check that the data is “00”.
   Note: If bit 0 of page: 3, address: 03 data is “1”, the A channel is defective. If bit 1 is “1”, the B channel is defective. Contents of the defect is written into page: C, addresses: 10 and 12. See the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)
7) Select page: 0, address: 01, and set data: 00.

When the A channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC4502) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC3301 (CAIN)

When the B channel is defective

Data of page: C, address: 12	Contents of defect
E8	Adjustment data is out of range
E7	No data is returned from IC3301 (CAIN)

4. AGC Center Level Adjustment (VC-235 board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑯ of CN1108 (RF MON) (Note 1) External trigger : Pin ⑬ of CN1108 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	1E
Specified Value	The display data of page: 3, address: 03 is “00”

Note 1: Connect a 75 Ω resistor between Pin ⑯ and Pin ⑥ (GND) of CN1108.
75 Ω resistor (Parts code: 1-247-804-11)

Note 2: Use a Hi8 MP tape.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 8, address: 2A, set data: C8, and press the PAUSE button of the adjustment remote commander.
3) Record the camera signal for a minute.
4) Select page: 2, address: 2E, and set data: 01.
5) Playback the recorded segment.
6) Select page: 3, address: 33, and set data: 08.
7) Confirm that the playback RF signal is stable.
8) Select page: 3, address: 01, set data: 23, and press the PAUSE button.
9) Select page: 3, address: 02, and check that the data is “00”.
10) Select page: 3, address: 03, and check that the data is “00”.
    Note 3: If the data of page: 3, address: 03 is other than “00”, adjustment has errors.
11) Select page: 3, address: 33, and set data: 00.
12) Select page: 2, address: 2E, and set data: 00.
13) Select page: 8, address: 2A, set data: 00, and press the PAUSE button.
14) Select page: 0, address: 01, and set data: 00.

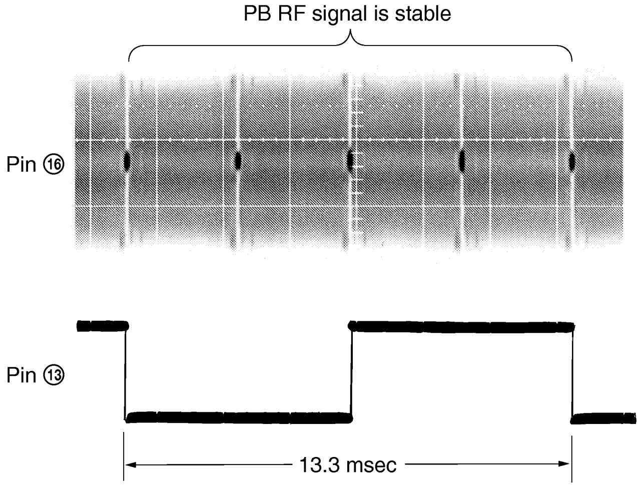


Fig. 5-3-5

5. APC & AEQ Adjustment (VC-235 board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin ⑯ of CN1108 (RF MON) (Note 1) External trigger : Pin ⑬ of CN1108 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	18, 19, 1B, 1C, 21, 2C
Specified Value	The display data of page: 3, address: 03 is “00”

Note 1: Connect a 75 Ω resistor between Pin ⑯ and Pin ⑥ (GND) of CN1108.
75 Ω resistor (Parts code: 1-247-804-11)

Note 2: Use a Hi8 MP tape.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 8, address: 2A, set data: C8, and press the PAUSE button of the adjustment remote commander.
3) Record the camera signal for a minute.
4) Select page: 2, address: 2E, and set data: 01.
5) Playback the recorded segment.
6) Select page: 3, address: 33, and set data: 08.
7) Confirm that the playback RF signal is stable.
8) Select page: 3, address: 01, set data: 07, and press the PAUSE button.
9) Select page: 3, address: 02, and check that the data changes from “07” to “00” in about 20 seconds after pressing the PAUSE button.
10) Select page: 3, address: 03, and check that the data is “00”.
    Note 3: If the data of page: 3, address: 03 is other than “00”, adjustment has errors.
11) Select page: 3, address: 33, and set data: 00.
12) Select page: 2, address: 2E, and set data: 00.
13) Select page: 8, address: 2A, set data: 00, and press the PAUSE button.
14) Select page: 0, address: 01, and set data: 00.

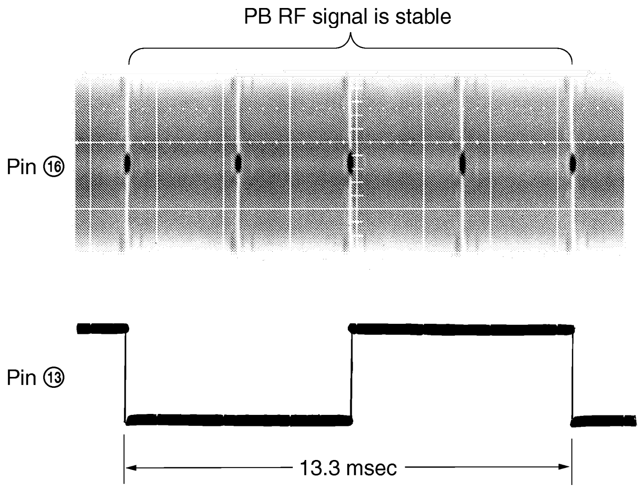


Fig. 5-3-6

6. PLL f_0 & LPF f_0 Final Adjustment (VC-235 board)

Mode	VTR stop
Signal	Arbitrary
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	C
Adjustment Address	1F, 20, 22, 29
Specified Value	Bit values of bit2, bit3 and bit6 are “0”

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 02, and check that the data changes to “00”.
4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are “0”.
   Note: If bit value of bit 2, bit 3 or bit 6 is “1”, there are errors. For the error contents, see the following table. (For the bit values, refer to “5-4. SERVICE MODE”, “4-3. 3. Bit value discrimination”)

Bit value of page: 3, address: 03	Error contents
bit 6 = 1	LPF f_0 adjustment is defective
bit 3 = 1	PLL f_0, fine adjustment is defective
bit 2 = 1	PLL f_0, fine adjustment is defective

5) Select page: 0, address: 01, and set data: 00.

7. Hi8/standard 8 mm Switching Position Adjustment (VC-235 board)

If deviated in this case causes switching noise or jitter on the Hi8/ standard 8 mm mode played back screen.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For tracking adjustment (WR5-1NP (NTSC)) (WR5-1CP (PAL))
Measurement Point	CH1: Pin ⑧ of CN1108 (VC RF SWP) CH2: Pin ⑤ of CN1108 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	62, 63
Specified Value	t1=0 ± 10 μsec

Adjusting Method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 22, set data: C0, and press the PAUSE button of the adjustment remote commander.
3) Select page: 2, address: 2E, and set data: 02.
4) Set to the playback mode.
5) Select page: F, address: 62, change the data and minimize "t1", and then press the PAUSE button. (Coarse adjustment)
6) Select page: F, address: 63, change the data and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
7) Press the PAUSE button.
8) Select page: F, address: 22, set data: 80, and press the PAUSE button.
9) Select page: 2, address: 2E, and set data: 00.
10) Select page: 0, address: 01, and set data: 00.

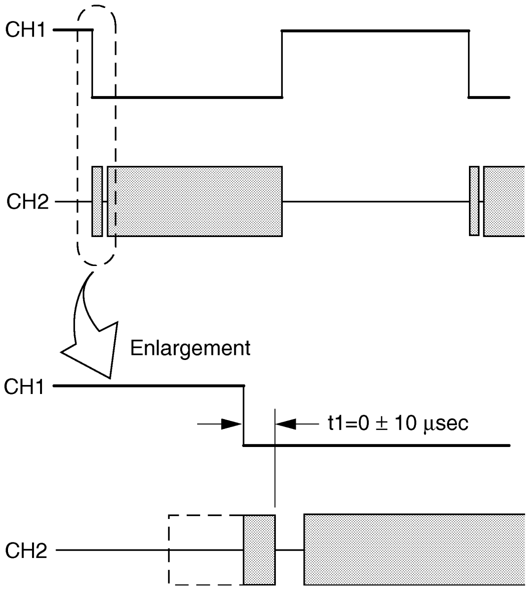


Fig. 5-3-7

8. CAP FG Duty Adjustment (VC-235 board)

Improve the capstan servo characteristic. If it is not correct. jitters will increase.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking operation (WR5-5NSP (NTSC)) (WR5-5CSP (PAL))
Measurement Point	Pin ⑮ of CN1108 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	64
Specified value	Duty=50 ± 1%

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: 2E, and set data: 02.
3) Set to the playback mode.
4) Select page: 6, address: 01, set data: 81, and press the PAUSE button of the adjustment remote commander. (to start up automatic CAP FG offset adjustment)
5) Select page: 6, address: 02, and check that the data is "01".
6) Check that Duty of CAP FG signal satisfies the specified value. If not, select page: 6, address: 01, set data: 00, and press the PAUSE button, and then, repeat steps 4) to 6).
7) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
8) Select page: 2, address: 2E, and set data: 00.
9) Select page: 0, address: 01, and set data: 00.

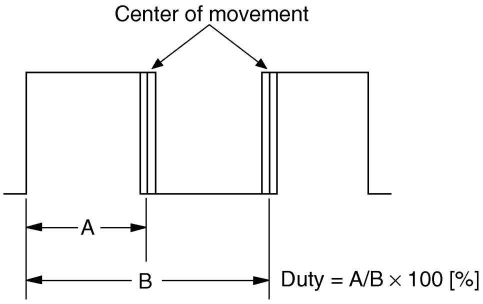


Fig. 5-3-8

3-4. VIDEO SYSTEM ADJUSTMENTS

3-4-1. Video System Adjustments

Adjusting Procedure:

1. 27 MHz/36 MHz origin oscillation adjustment
2. Chroma BPF f_0 adjustment
3. S VIDEO OUT Y Level Adjustment
4. S VIDEO OUT chroma level adjustment
5. VIDEO OUT Y, chroma level check
6. Hi8/standard 8 mm AFC f_0 adjustment

1. 27 MHz/36 MHz Origin Oscillation Adjustment (VC-235 board)

Set the oscillation frequency of X1501.
If deviated, the synchronization will be disrupted and the color will become inconsistent.

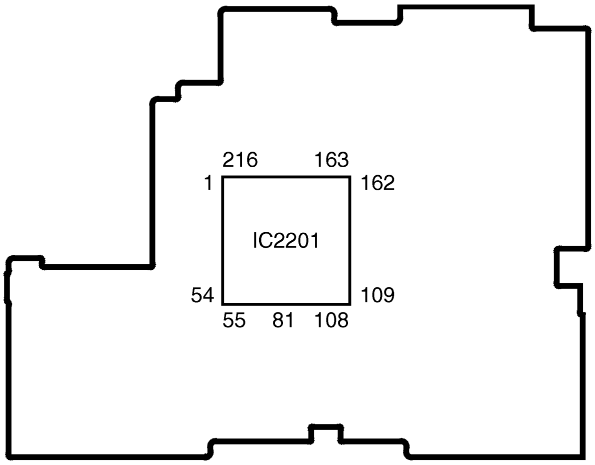
Note: 27 MHz .... 720H model
36 MHz .... 960H model
720H model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
960H model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Mode	Camera
Measurement Point	Pin (81) of IC2201
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	4D
Specified Value	f=13500000 ± 68 Hz

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 4D, change the data and set the clock frequency(f) to the specified value.
3) Press the PAUSE button of the adjustment remote commander.
4) Select page: 0, address: 01, and set data: 00.

VC-235 BOARD



2. Chroma BPF f_0 Adjustment (VC-235 board)

Set the center frequency of IC3701 chroma band-pass filter.

Mode	VTR stop
Signal	No signal
Measurement Point	CH1: Chroma signal terminal of S VIDEO jack (75 Ω terminated) CH2: Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	28
Specified Value	A = 100 mVp-p or less B = 200 mVp-p or more

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
3) Check that the burst signal (B) is output to the chroma signal terminal of S VIDEO jack.
4) Select page: 3, address: 0C, set data: 04, and press the PAUSE button.
5) Select page: C, address: 28, and change the data for minimum amplitude of the burst signal level (A).
(The data of address: 28, should be "00" to "07")
6) Press the PAUSE button.
7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
8) Check that the burst signal level (B) satisfies the specified value.
9) Select page: D, address: 11, set data: 00, and press the PAUSE button.
10) Select page: 0, address: 01, and set data: 00.

When the data of page: 3, address: 0C, is 04:

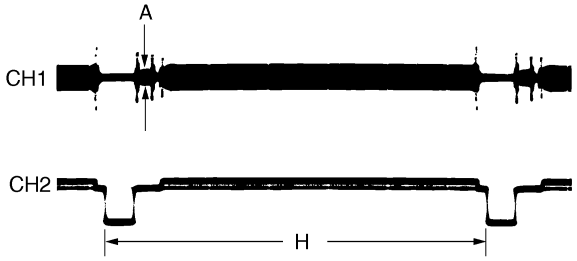


Fig. 5-3-9

When the data of page: 3, address: 0C, is 00:

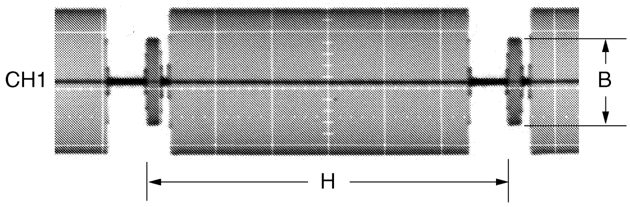


Fig. 5-3-10

3. S VIDEO OUT Y Level Adjustment (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	25
Specified Value	A = 1000 ± 20 mV

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
4) Select page: C, address: 25, change the data and set the Y signal level (A) to the specified value.
5) Press the PAUSE button.
6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
7) Select page: D, address: 11, set data: 00, and press the PAUSE button.
8) Select page: 0, address: 01, and set data: 00.

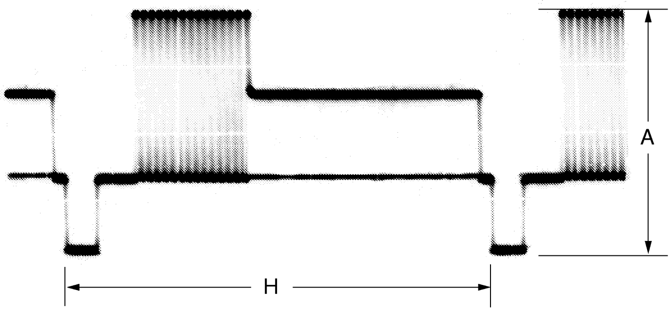


Fig. 5-3-11

4. S VIDEO OUT Chroma Level Adjustment (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO jack (75 Ω terminated) External trigger: Y signal terminal of S VIDEO jack
Measuring Instrument	Oscilloscope
Adjustment Page	C
Adjustment Address	26, 27
Specified Value	Cr level: A=714 ± 14 mV (NTSC) A=700 ± 14 mV (PAL) Cb level: B=714 ± 14 mV (NTSC) B=700 ± 14 mV (PAL) Burst level: C=286 ± 6 mV (NTSC) C=300 ± 6 mV (PAL)

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
4) Select page: C, address: 26, change the data and set the Cr signal level (A) to the specified value.
5) Press the PAUSE button.
6) Select page: C, address: 27, change the data and set the Cb signal level (B) to the specified value.
7) Press the PAUSE button.
8) Check that the burst signal level (C) is satisfied the specified value.
9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
10) Select page: D, address: 11, set data: 00, and press the PAUSE button.
11) Select page: 0, address: 01, and set data: 00.

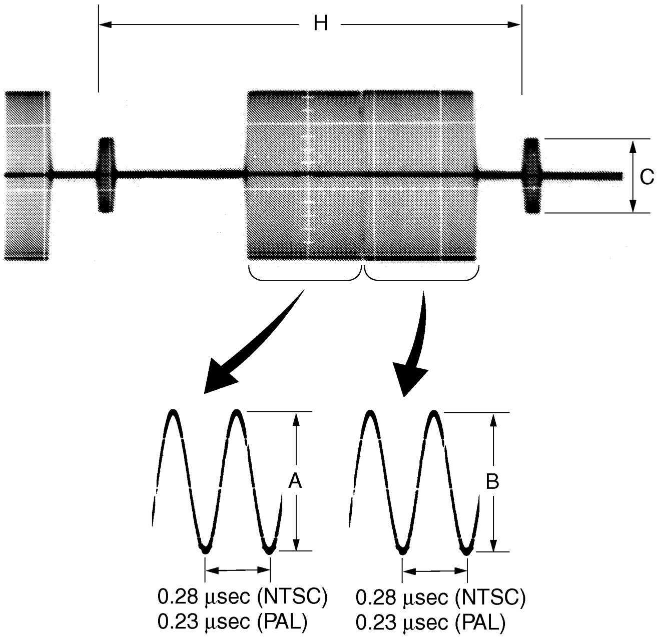


Fig. 5-3-12

5. VIDEO OUT Y, Chroma Level Check (VC-235 board)

Mode	VTR stop
Subject	Arbitrary
Measurement Point	VIDEO jack (75 Ω terminated)
Measuring Instrument	Oscilloscope
Specified Value	Sync level: A=286 ± 18 mV (NTSC) A=307 ± 18 mV (PAL) Burst level: B=286 ± 18 mV (NTSC) B=300 ± 18 mV (PAL)

Adjusting method:

1) Select page: 0, address: 01, set data: 01.
2) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
3) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
4) Check that the sync signal level (A) satisfies the specified value.
5) Check that the burst signal level (B) satisfies the specified value.
6) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
7) Select page: D, address: 11, set data: 00, and press the PAUSE button.
8) Select page: 0, address: 01, set data: 00.

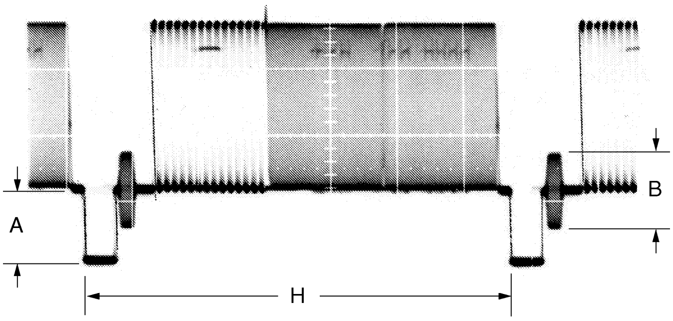


Fig. 5-3-13

6. Hi8/standard 8 mm AFC f_0 Adjustment (VC-235 board) (Using Digital Voltmeter)

Adjust the pull-in range of the clock generator (IC2201) for A/D conversion during Hi8/standard 8 mm playback.

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ② of CN1108 (AFC F0)
Measuring Instrument	Digital voltmeter
Adjustment Page	F
Adjustment Address	65
Specified Value	A=2.00 ± 0.05 Vdc

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 63, set data: 04.
4) Select page: 6, address: 6F, set data: 01.
5) Select page: F, address: 65, change the data and set the DC voltage (A) to the specified value.
6) Press the PAUSE button.
7) Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
8) Select page: 6, address: 63, set data: 00.
9) Select page: 6, address: 6F, set data: 00.
10) Select page: 0, address: 01, and set data: 00.

7. Hi8/standard 8 mm AFC f_0 Adjustment (VC-235 board) (Auto Adjustment)

Adjust the pull-in range of the clock generator (IC2201) for A/D conversion during Hi8/standard 8 mm playback.

Mode	VTR stop
Signal	No signal
Measurement Point	Display data of Page: 6, Address: 6E
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	65
Specified Value	B2 to BA

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
3) Select page: 6, address: 63, set data: 04.
4) Select page: 6, address: 6F, set data: 01.
5) Select page: 6, address: 01, set data: C5, and press the PAUSE button.
6) Select page: 6, address: 02, and check that the data is “01”.
7) Select page: 6, address: 6E, and check that the display data satisfies the specified value.
8) Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
9) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
10) Select page: 6, address: 63, set data: 00.
11) Select page: 6, address: 6F, set data: 00.
12) Select page: 0, address: 01, and set data: 00.

3-5. IR TRANSMITTER ADJUSTMENTS

Adjust using a IR receiver jig (J-6082-383-A).

Switch setting:
LASER LINK .... ON (Red LED is lit)

1. IR Video Carrier Frequency Adjustment (MI-37 board)

Mode	VTR stop
Signal	No signal
Measurement Point	Pin ⑤ of CN003 of IR receiver jig (RF)
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	80
Specified Value	f=11.85 ± 0.05 MHz (NTSC model) f=11.55 ± 0.05 MHz (PAL model)

Note: NTSC model: DCR-TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720
PAL model: DCR-TRV320E/TRV420E/TRV520E/TRV620E/TRV720E

Connection of Equipment
Connect the measuring device as shown in the following figure, and adjust.

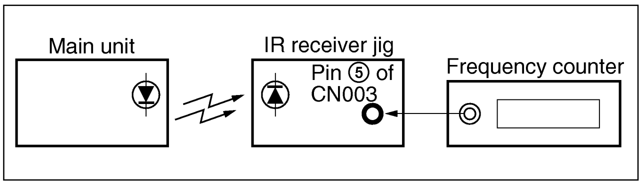


Fig. 5-3-14

Adjusting method:
1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 08, and press the PAUSE button of the adjustment remote commander.
3) Select page: F, address: 80, change the data, and set the video carrier frequency (f) to the specified value.
4) Press the PAUSE button.
5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
6) Select page: 0, address: 01, and set data: 00.

2. IR Video Deviation Adjustment (MI-37 board)

Mode	VTR stop
Signal	No signal
Measurement Point	VIDEO OUT terminal of IR receiver jig (Terminated at 75 Ω)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7E
Specified Value	A=0.82 ± 0.05 V

Connection of Equipment
Connect the measuring device as shown in the following figure, and adjust.

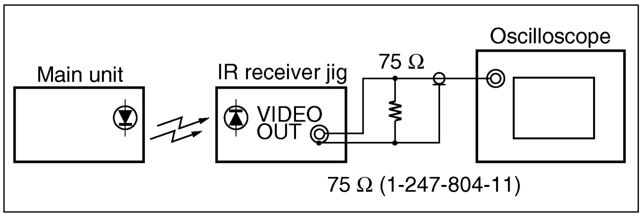


Fig. 5-3-15

Adjusting method:
1) Select page: 0, address: 01, and set data: 01.
2) Select page: 3, address: 0C, set data: 01, and press the PAUSE button of the adjustment remote commander.
3) Select page: F, address: 7E, and change the data, set the video signal amplitude (A) to the specified value.
4) Press the PAUSE button.
5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
6) Select page: 0, address: 01, and set data: 00.

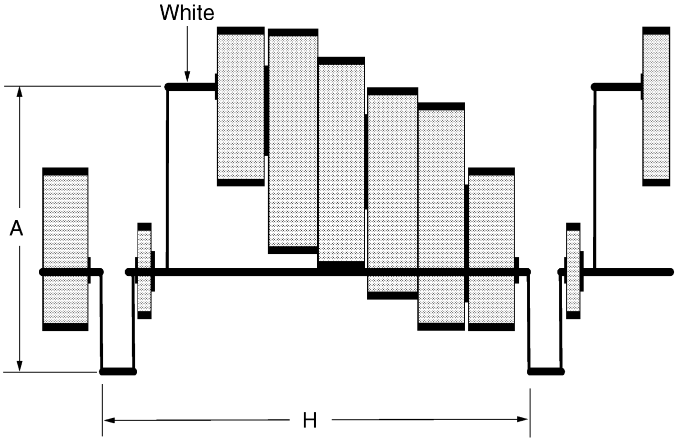


Fig. 5-3-16

3. IR Audio Deviation Adjustment (MI-37 board)

Mode	VTR stop
Signal	Audio signal: 400 Hz, –7.5 dBs: Audio left and right terminal of A/V jack Video signal: Color bar signal: VIDEO terminal of A/V jack
Measurement Point	AUDIO L terminal and AUDIO R terminal of IR receiver jig (Terminated at 47 kΩ)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	7F
Specified Value	Signal level: –7.5 ± 1.0 dBs Level difference of L and R: Below 2 dB

Connection of Equipment

Connect the measuring device as shown in the following figure, and adjust.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Connect the audio level meter to the AUDIO L terminal of the IR receiver jig.
3) Select page: F, address: 7F, change the data and set the 400 Hz audio signal level to the specified value.
4) Press the PAUSE button.
5) Connect the audio level meter to the AUDIO R terminal of the IR receiver jig.
6) Check that the 400 Hz audio signal level is within the specified value. If outside, repeat from step 3).
7) Select page: 0, address: 01, and set data: 00.

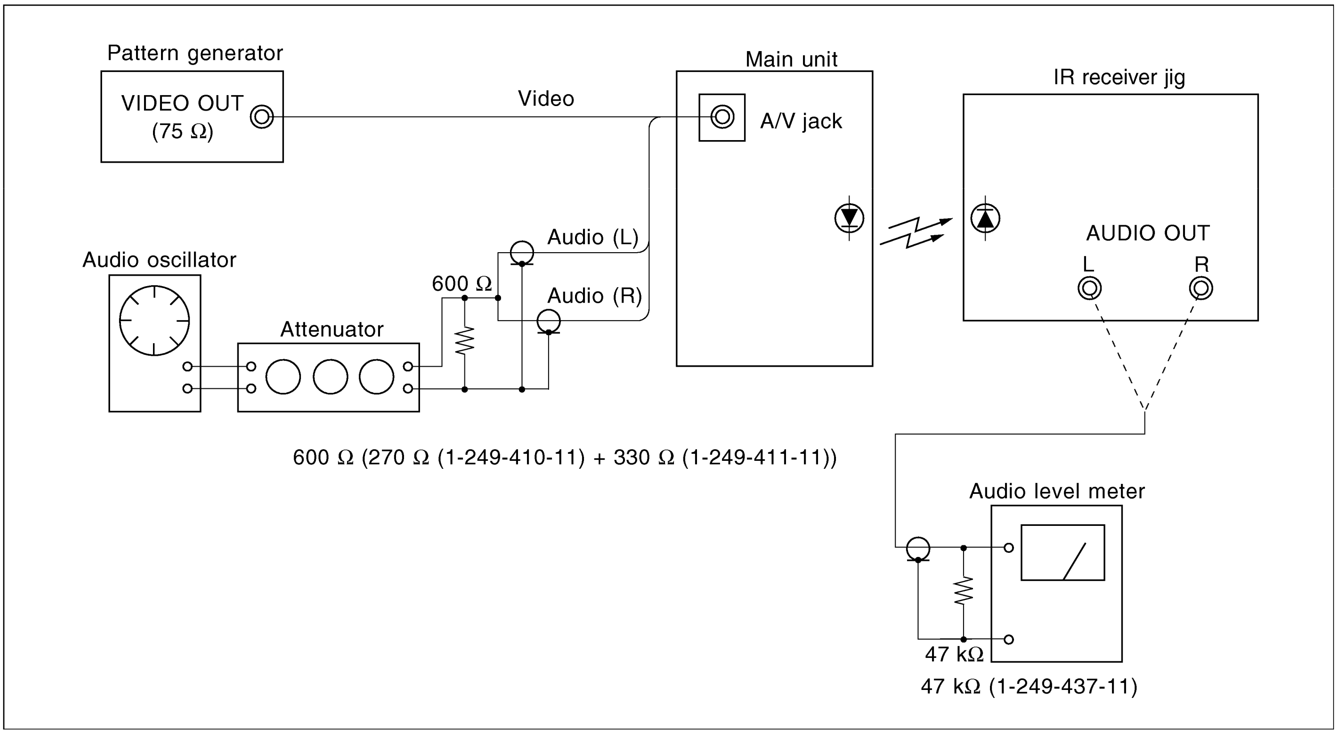

Pattern generator
VIDEO OUT
(75 Ω)
Video
Main unit
A/V jack
IR receiver jig
Audio oscillator
Audio (L)
600 Ω
Audio (R)
Attenuator
AUDIO OUT
L
R
600 Ω (270 Ω (1-249-410-11) + 330 Ω (1-249-411-11))
Audio level meter
47 kΩ
47 kΩ (1-249-437-11)

Fig. 5-3-17

3-6. AUDIO SYSTEM ADJUSTMENTS

[Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 5-3-22.

[Adjustment Procedure]

1) Hi8/standard 8 mm AFM BPF f_0 adjustment
2) Hi8/standard 8 mm AFM 1.5 MHz deviation adjustment
3) Hi8/standard 8 mm AFM 1.7 MHz deviation adjustment
4) Digital8 playback level check
5) Overall level characteristics check
6) Overall distortion check
7) Overall noise level check
8) Overall separation check

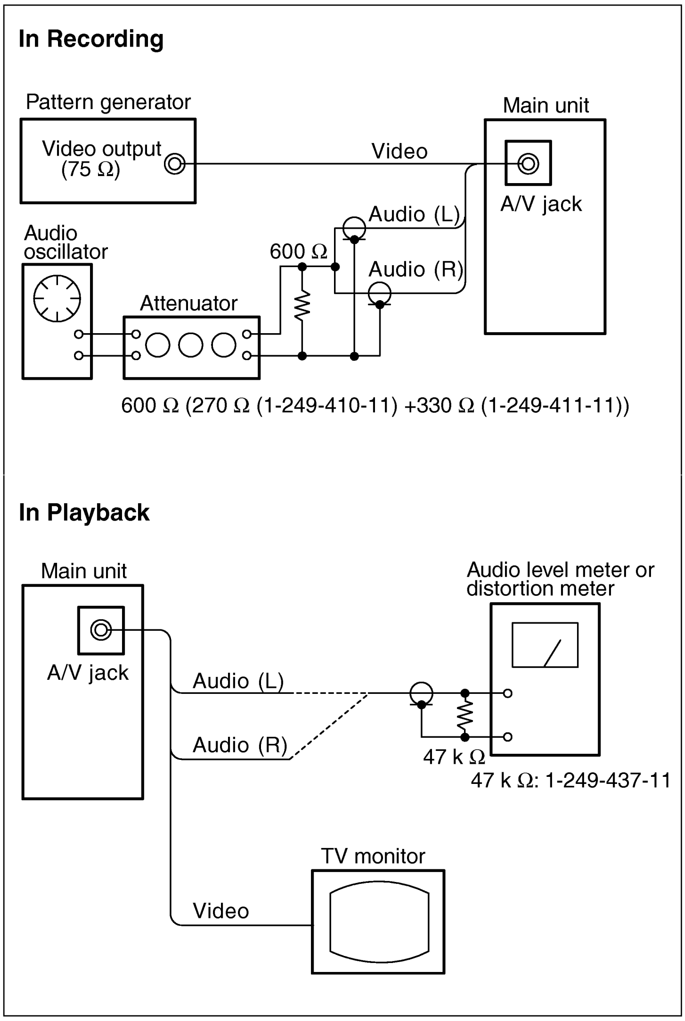

In Recording
Pattern generator
Video output (75 Ω)
Video
Main unit
A/V jack
Audio (L)
Audio (R)
Audio oscillator
600 Ω
Attenuator
600 Ω (270 Ω (1-249-410-11) +330 Ω (1-249-411-11))
In Playback
Main unit
A/V jack
Audio level meter or distortion meter
Audio (L)
Audio (R)
47 k Ω
47 k Ω: 1-249-437-11
TV monitor
Video

Fig. 5-3-18

1. Hi8/standard 8 mm AFM BPF f_0 Adjustment (VC-235 board)

Sets the BPF passing frequency of IC5701 so that the AFM signal can separate from the playback RF signal properly. If deviated. the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For BPF adjustment (WR5-11NS (NTSC)) (WR5-11CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Distortion meter
Adjustment Page	F
Adjustment Address	7D
Specified Value	The Main and Sub channel distortion rate should be almost the same (within ± 1%) and minimum.

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Set the Hi-Fi sound switch (menu display) to “2”.
3) Select page: F, address: 7D, change the data and minimize the distortion rate.
4) Press the PAUSE button of the adjustment remote commander.
5) Set the Hi-Fi sound switch (menu display) to “1”.
6) Select page: F, address: 7D, change the data and minimize the distortion rate.
7) Press the PAUSE button of the adjustment remote commander.
8) Repeat steps 2) to 7) and set the data of address: 7D so that the distortions rates when the Hi-Fi sound switch is set to “2” and set to “1” respectively are almost the same and minimum.
9) Press the PAUSE button of the adjustment remote commander.
10) Select page: 0, address: 01, and set data: 00.
11) Set the Hi-Fi sound switch to “STEREO”.

2. Hi8/standard 8 mm AFM 1.5 MHz Deviation Adjustment (VC-235 board)

Adjust to the optimum 1.5 MHz audio FM signal deviation.
If the adjustment is not correct, its playback level will differ from that of other units.

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking AFM stereo operation Monoscope section (WR5-9NS (NTSC)) (WR5-9CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	7B
Specified Value	–7.5 ± 2.0 dBs

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Set the Hi-Fi sound switch (menu display) to “1”.
3) Select page: F, address: 7B, change the data and set the 400 Hz signal level to the specified value.
4) Press the PAUSE button.
5) Set the Hi-Fi sound switch (menu display) to “STEREO”.
6) Select page: 0, address: 01, and set data: 00.

3. Hi8/standard 8 mm AFM 1.7 MHz Deviation Adjustment (VC-235 board)

Adjust to the optimum 1.7 MHz audio FM signal deviation.
If improper, this causes deteriorated separation (with stereo signal).

Mode	Playback
Signal	Hi8/standard 8 mm alignment tape: For checking AFM stereo operation Monoscope section (WR5-9NS (NTSC)) (WR5-9CS (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	7C
Specified Value	–7.5 ± 2.0 dBs

Adjusting method:

1) Select page: 0, address: 01, and set data: 01.
2) Set the Hi-Fi sound switch (menu display) to “2”.
3) Select page: F, address: 7C, change the data and set the 1 kHz signal level to the specified value.
4) Press the PAUSE button.
5) Set the Hi-Fi sound switch (menu display) to “STEREO”.
6) Select page: 0, address: 01, and set data: 00.

4. Digital8 Playback Level Check

Mode	VTR playback
Signal	Digital8 alignment tape: For audio operation check (WR5-3ND (NTSC)) (WR5-3CD (PAL))
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter and frequency counter
Specified Value	32 kHz mode: 1 kHz, + 3.0 ± 2.0 dBs 48 kHz mode: 1 kHz, + 3.0 ± 2.0 dBs 44.1 kHz mode: The 7.35 kHz signal level during EMP OFF is +2.0 ± 2.0 dBs. The 7.35 kHz signal level during EMP ON is –6 ± 2 dB from the signal level during EMP OFF.

Checking Method:

1) Check that the playback signal level is the specified value.

5. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	–7.5 ± 3.0 dBs

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the 400 Hz signal level is the specified value.

6. Overall Distortion Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack left and right
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio distortion meter
Specified Value	Below 0.4% (200 Hz to 6 kHz BPF ON)

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the distortion is the specified value.

7. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Insert a shorting plug in the MIC jack
Measurement Point	Audio left or right terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	Below –45 dBs (IHF-A filter ON, 20 kHz LPF ON)

Checking Method:

1) Insert a shorting plug in the MIC jack.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the noise level is the specified value.

8. Overall Separation Check

Mode	Camera recording and playback
Signal	400 Hz, –66 dBs signal: MIC jack <right> [left] (Connect the MIC jack <left> [right] to GND)
Measurement Point	Audio <left> [right] terminal of A/V jack
Measuring Instrument	Audio level meter
Specified Value	Below –40 dBs

< > : Left channel check
[ ] : Right channel check

Checking Method:

1) Input the 400 Hz, –66 dBs signal in the <right> [left] terminal of the MIC jack only.
2) Record in the camera mode.
3) Playback the recorded section.
4) Check that the signal level of the audio output <left> [right] terminal is the specified value.

5-4. SERVICE MODE

4-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

1. Using the Adjustment Remote Commander

1) Connect the adjustment remote commander to the LANC terminal.
2) Set the HOLD switch of the adjustment remote commander to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 5-4-1.

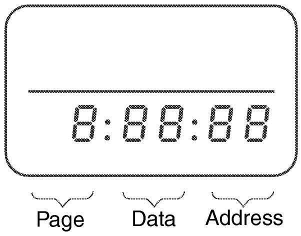


Fig. 5-4-1

3) Operate the adjustment remote commander as follows.
   - Changing the page
     The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH– button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
LCD Display	0	1	2	3	4	5	6	7	8	9	A	b	c	d	E	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

   - Changing the address
     The address increases when the FF (▶▶) button is pressed, and decreases when the REW (◀◀) button is pressed. There are altogether 256 addresses, from 00 to FF.
   - Changing the data (Data setting)
     The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
   - Writing the adjustment data
     The PAUSE button must be pressed to write the adjustment data (7, 8, C, D, E, F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed)
4) After completing all adjustments, turn off the main power supply (8.4 V) once.

2. Precautions Upon Using the Adjustment Remote Commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

4-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

Hexadecimal-decimal Conversion Table

Lower digit of hexadecimal / Upper digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	A (A)	B (b)	C (c)	② D (d)	E (E)	F (F)
0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
① B (b)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
C (c)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
D (d)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
E (E)	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

Note: The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(Example) If the DDS display or the adjustment remote commander shows BD (bd);
Because the upper digit of the adjustment number is B (b), and the lower digit is D (d), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table 5-4-1

4-3. SERVICE MODE

Additional note on adjustment

Note: After the completion of the all adjustments, cancel the service mode by either of the following ways.

1) After data on page: D and F is restored, unplug the main power supply and remove the coin lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting)
2) After data on page: D and F is restored, select page: 0, address: 01, and return the data to 00. And when data on page: 2 and 3 are changed, return data to the original condition.

1. Setting the Test Mode

Page F	Address 22

Data	Function
80	Normal
81	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10

Data	Function
00	Normal
01	Forced camera power ON
02	Forced VTR power ON
03	Forced camera + VTR power ON
05	Forced memory power ON

- Before setting the data , select page: 0, address: 01, and set data: 01.
- For page D and F, the data set will be recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4 Vdc).
- After completing adjustments/repairs, be sure to return the data of this address to 00, and press the PAUSE button of the adjustment remote commander. And select page: 0, address: 01, and set data: 00.

2. Emergence Memory Address

2-1. C Page Emergence Memory Address

Page C	Address F4 to FF

Address	Contents
F4	EMG code when first error occurs
F6	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
F7	Lower: MSW code to be moved when first error occurs
F8	EMG code when second error occurs
FA	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
FB	Lower: MSW code to be moved when second error occurs
FC	EMG code when last error occurs
FE	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
FF	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (F4 to FF). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (F4 to F7). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (F8 to FB).
Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (FC to FF).

Note: After completing adjustments, be sure to initialize the data of addresses F4 to FF to “00”.

Initializing method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: C, address: F4, set data: 00, and press the PAUSE button.
3) Select address: F5 to FF and set data “00” into them in the same way as address: F4.
4) Select page: 0, address: 01, and set data: 00.

2-2. F Page Emergence Memory Address

Note 1: Emergence of PB mode only.

Page F	Address 10 to 1B

Address	Contents
10	EMG code when first error occurs
12	Upper: MSW code when shift starts when first error occurs Lower: MSW code when first error occurs
13	Lower: MSW code to be moved when first error occurs
14	EMG code when second error occurs
16	Upper: MSW code when shift starts when second error occurs Lower: MSW code when second error occurs
17	Lower: MSW code to be moved when second error occurs
18	EMG code when last error occurs
1A	Upper: MSW code when shift starts when last error occurs Lower: MSW code when last error occurs
1B	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data “00” is written in the above addresses (10 to 1B). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (10 to 13). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (14 to 17).

Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (18 to 1B).

Note 2: After completing adjustments, be sure to initialize the data of addresses 10 to 1B to “00”.

Initializing method:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: F, address: 10, set data: 00, and press the PAUSE button.
3) Select address: 11 to 1B and set data “00” into them in the same way as in address: 10.
4) Select page: 0, address: 01, and set data: 00.

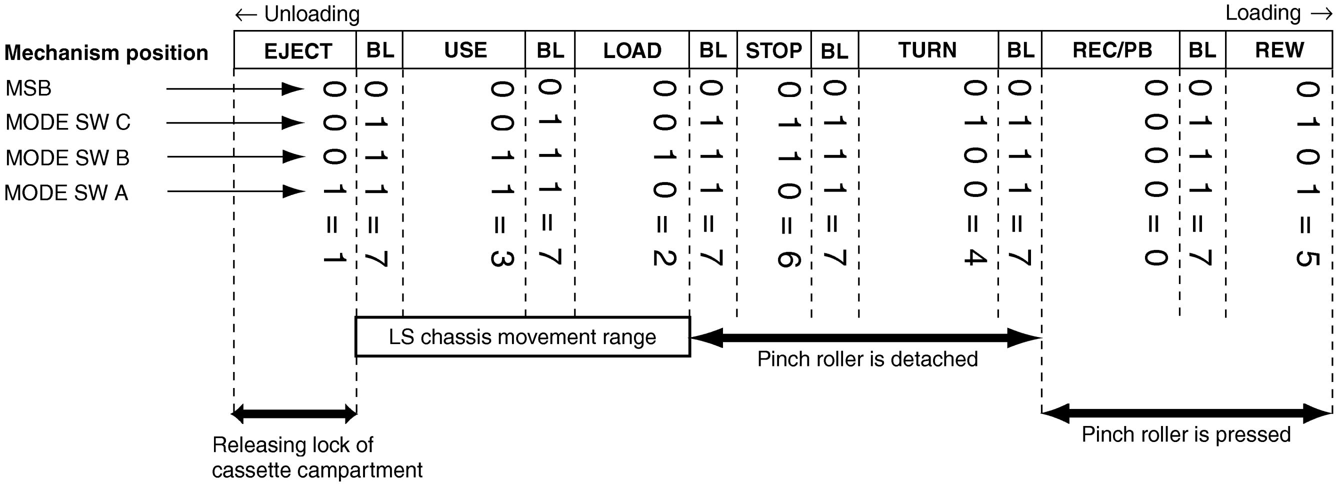
2-3. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in C page, addresses F4, F8 and FC (or F page, addresses 10, 14 and 18). The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

2-4. MSW Code

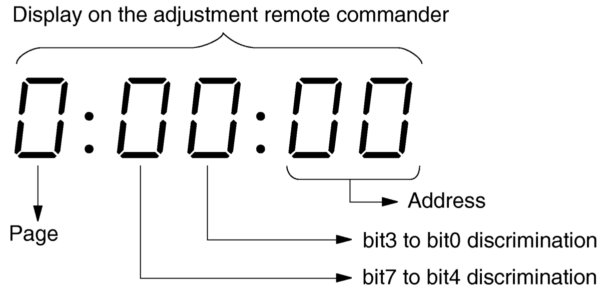
- The lower parts of the data of C page, addresses F6, FA and FE (or F page, addresses 12, 16 and 1A) represent the MSW codes (mode switch mechanism position) when errors occurs.
- The upper parts of the data of C page, addresses F6, FA and FE (or F page, addresses 12, 16 and 1A) represent, when the mechanism position is to be moved, the MSW codes at the start movement (when moving the loading motor).
- The lower parts of the data of C page, addresses F7, FB and FF (or F page, addresses 13, 17 and 1B) represent the MSW codes of the desired movement when the mechanism position is to be moved.


← Unloading
Loading →
Mechanism position
EJECT
BL
USE
BL
LOAD
BL
STOP
BL
TURN
BL
REC/PB
BL
REW
MSB
MODE SW C
MODE SW B
MODE SW A
0001 = 1
0111 = 7
0011 = 3
0111 = 7
0010 = 2
0111 = 7
0110 = 6
0111 = 7
0100 = 4
0111 = 7
0000 = 0
0111 = 7
0101 = 5
LS chassis movement range
Pinch roller is detached
Releasing lock of cassette campartment
Pinch roller is pressed

Mechanism Position	MSW Code	Contents
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.
BL	7	BLANC code. Between two codes. The mechanism will not be stopped by this code while it is operating.
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.
REC/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.
REW	5	REW position. REW are carried at this position. The mechanism will not move any further in the loading direction.

3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is “1” or “0”.


Display on the adjustment remote commander
0:00:00
Address
Page
bit3 to bit0 discrimination
bit7 to bit4 discrimination

(Example) If the remote commander display is “8E”, bit value from bit 7 to bit 4 can be discriminated from the column Ⓐ, and those from bit 3 to bit 0 from column Ⓑ.

	Display on the adjustment remote commander	Bit values			
		bit3 or bit7	bit2 or bit6	bit1 or bit5	bit0 or bit4
	0	0	0	0	0
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	1
	4	0	1	0	0
	5	0	1	0	1
	6	0	1	1	0
	7	0	1	1	1
Ⓐ	8	1	0	0	0
	9	1	0	0	1
	A (A)	1	0	1	0
	B (b)	1	0	1	1
	C (C)	1	1	0	0
	D (d)	1	1	0	1
Ⓑ	E (E)	1	1	1	0
	F (F)	1	1	1	1

4. Input/output Check

Page 2	Address 49

Bit	Function	When bit value = 1	When bit value = 0
0			
1			
2			
3			
4	MIC jack	MIC jack is used	
5			
6	AUDIO/VIDEO jack	AUDIO/VIDEO jack is used	
7	S VIDEO jack		S VIDEO jack is used

Using method:

1) Select page: 2, address: 49.
2) By discriminating the bit value of display data, the state of the jack can be discriminated.

5. LED, LCD (Display Window) Check

Page 2	Address 05	Bit5

Using method:

1) Select page: 2, address: 05, and set the bit value of Bit5 to “1”.
2) Check that all LED are lit and all segments of LCD (display window) are lit.
3) Select page: 2, address: 05, and set the bit value of Bit5 to “0”.

6. Record of Use Check

Page 2	Address A2 to AA

Bit	Function		Remarks
A2	Drum rotation counted time (BCD code)	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
A3		Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4		Minute	
A5	User initial power on date (BCD code)	Year	After setting the clock, set the date of power on next
A6		Month	
A7		Day	
A8	Final condensation occurrence date (BCD code)	Year	
A9		Month	
AA		Day	

Using method:

1) The record of use data is displayed at page: 2, addresses: A2 to AA.

Note 1: This data will be erased when the coin lithium battery (CF-69/70/72 board BH001) is removed (reset).

Note 2: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	CF board
2.5 LCD model	CF-69
3/3.5 LCD model	CF-70
4 LCD model	CF-72

Note 3: When the drum was replaced, initialize the drum rotation counted time.

Initializing method of drum rotation counted time:

1) Select page: 0, address: 01, and set data: 01.
2) Select page: 2, address: A2, set data: 00, and press the PAUSE button.
3) Select address: A3 and A4 and set data “00” into them in the same way as in address: A2.
4) Select page: 0, address: 01, and set data: 00.

7. Switch Check (1)

Page 2	Address 43

Bit	Function	When bit value = 1	When bit value = 0
0	VTR MODE SW (SS-10000 block S001)	OFF	ON
1	CAM MODE SW (SS-10000 block S001)	OFF	ON
2	START/STOP SW (SS-10000 block S002)	OFF	ON
3	EJECT SW (FK-10000 block S012)	OFF	ON
4	CC DOWN SW (Mechanism chassis)	OFF (UP)	ON (DOWN)
5	PHOTO FREEEZE SW (FK-10000 block S013)	OFF	ON
6	PHOTO MODE SW (SS-10000 block S001)	OFF	ON
7			

Using method:

1) Select page: 2, address: 43.
2) By discriminating the bit value of display data, the state of the switches can be discriminated.

8. Switch Check (2)

Page 2	Address 60 to 66

Using method:

1) Select page: 2, address: 60 to 66.
2) By discriminating the display data, the pressed key can be discriminated.

Address	Data							
	00 to 0C	0D to 24	25 to 3F	40 to 5D	5E to 81	82 to AA	AB to D7	D8 to FF
60 (KEY AD0) IC4801 (93)	LASER AV LINK (FK-10000 block) (S001)	STOP (FK-10000 block) (S002)	FF (FK-10000 block) (S003)	REC (FK-10000 block) (S004, 005)	EDIT SEARCH (+) (FK-10000 block) (S006)	EDIT SEARCH (–) (FK-10000 block) (S007)		No key input
61 (KEY AD1) IC4801 (94)	PHOTO START (FK-10000 block) (S014)	PAUSE (FK-10000 block) (S009)	REW (FK-10000 block) (S010)	PLAY (FK-10000 block) (S011)				No key input
62 (KEY AD2) IC4801 (95)	DIGITAL EFFECT (CF-69/70/ 72 board) (S001)	PICTURE EFFECT (CF-69/70 72 board) (S003)	MENU (CF-69/70 72 board) (S007)	TITLE (CF-69/70 72 board) (S010)	PB ZOOM (CF-69/70 72 board) (S014)			No key input
(KEY AD3) IC4801 (96)	MEMORY + (CF-69/70/ 72 board) (S002)	MEMORY – (CF-69/70/ 72 board) (S004)	MEMORY INDEX (CF-69/70/ 72 board) (S008)	MEMORY DELETE (CF-69/70/ 72 board) (S011)	MEMORY PLAY (CF-69/70/ 72 board) (S015)	MEMORY MIX (CF-69 board) (S018) (CF-70/72 board) (S019)	PANEL COLSE (PANEL OPEN/ CLOSE SWITCH) (S008)	PANEL OPEN (PANELOPEN/ CLOSE SWITCH) (S008)
64 (KEY AD4) IC4801 (97)	SUPER NIGHTSHOT (MF-10000 block) (S002)	DATA CODE (CF-69/70/ 72 board) (S005)	END SEARCH (CF-69/70/ 72 board) (S009)	SELF TIMER (CF-69/70/ 72 board) (S012)	DISPLAY (CF-69/70/ 72 board) (S016)	FOCUS INFINTY (MF-10000 block) (S001)	FOCUS AUTO (MF-10000 block) (S001)	FOCUS MANUAL (MF-10000 block) (S001)
65 (KEY AD5) IC4801 (98)			EXEC (CF-69/70 board) (S006) (KP-009 board) (S305)	EXPOSURE (CF-69/70 board) (S013) (KP-009 board) (S304)	PROGRAM AE (CF-69/70 board) (S017) (KP-009 board) (S303)	BACK LIGHT (CF-69 board) (S019) (CF-70 board) (S020) (KP-009 board) (S302)	FADER (CF-69 board) (S020) (CF-70 board) (S021) (KP-009 board) (S301)	No key input
66 (KEY AD6) IC4801 (99)		LCD BRIGHT (+) (PD-117 board) (S5701) (BV-10000 block) (S001)	LCD BRIGHT (–) (PD-117 board) (S5702) (BV-10000 block) (S002)	VOLUME (+) (PD-117 board) (S5703) (BV-10000 block) (S003)	VOLUME (–) (PD-117 board) (S5704) (BV-10000 block) (S004)	PANEL REVERSE (PR-10000 block) (S001)		PANEL NORMAL (PR-10000 block) (S001)

Note: 2.5 LCD model: DCR-TRV320/TRV320E/TRV320P
3 LCD model: DCR-TRV420E/TRV525
3.5 LCD model: DCR-TRV520/TRV520E/TRV520P/TRV620E
4 LCD model: DCR-TRV720/TRV720E

	CF board	KP board	PD board	BV block
2.5 LCD model	CF-69	–	PD-117	–
3/3.5 LCD model	CF-70	–	PD-118	BV-10000
4 LCD model	CF-72	KP-009	PD-118	BV-10000

9. Headphone Jack Check

Page 3	Address 5A

Bit	Function	When bit value = 1	When bit value = 0
2	Headphone jack	Headphone jack is used	

Using method:

1) Select page: 3, address: 5A.
2) By discriminating the bit value of display data, the state of the headphone jack can be discriminated.

SECTION 6
REPAIR PARTS LIST

6-1. EXPLODED VIEWS

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

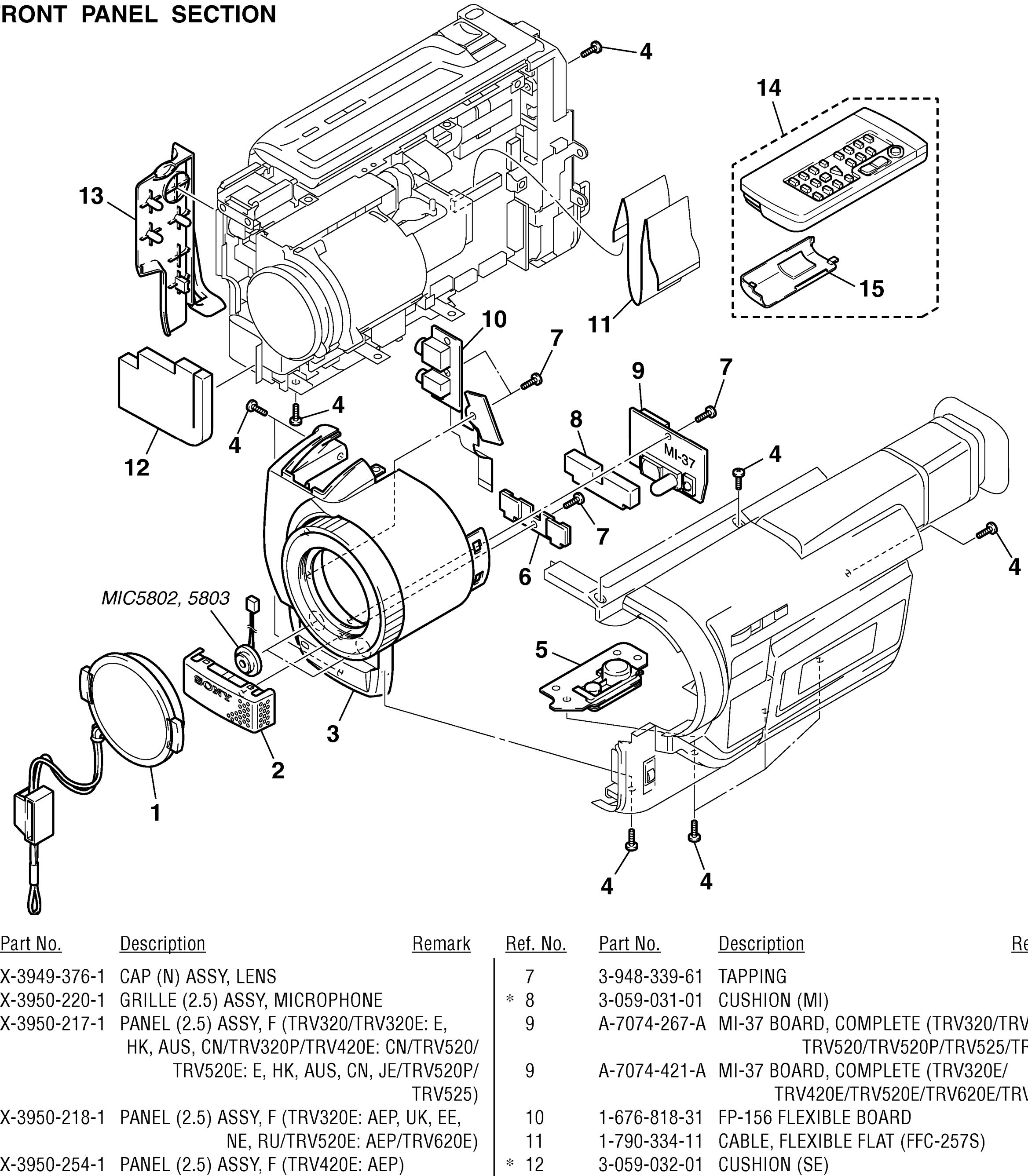
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories are given in the last of the electrical parts list.

- Abbreviation

AR	: Argentine model	EE	: East European model	KR	: Korea model
AUS	: Australian model	HK	: Hong Kong model	NE	: North European model
CN	: Chinese model	JE	: Tourist model	RU	: Russian model
CND	: Canadian model				

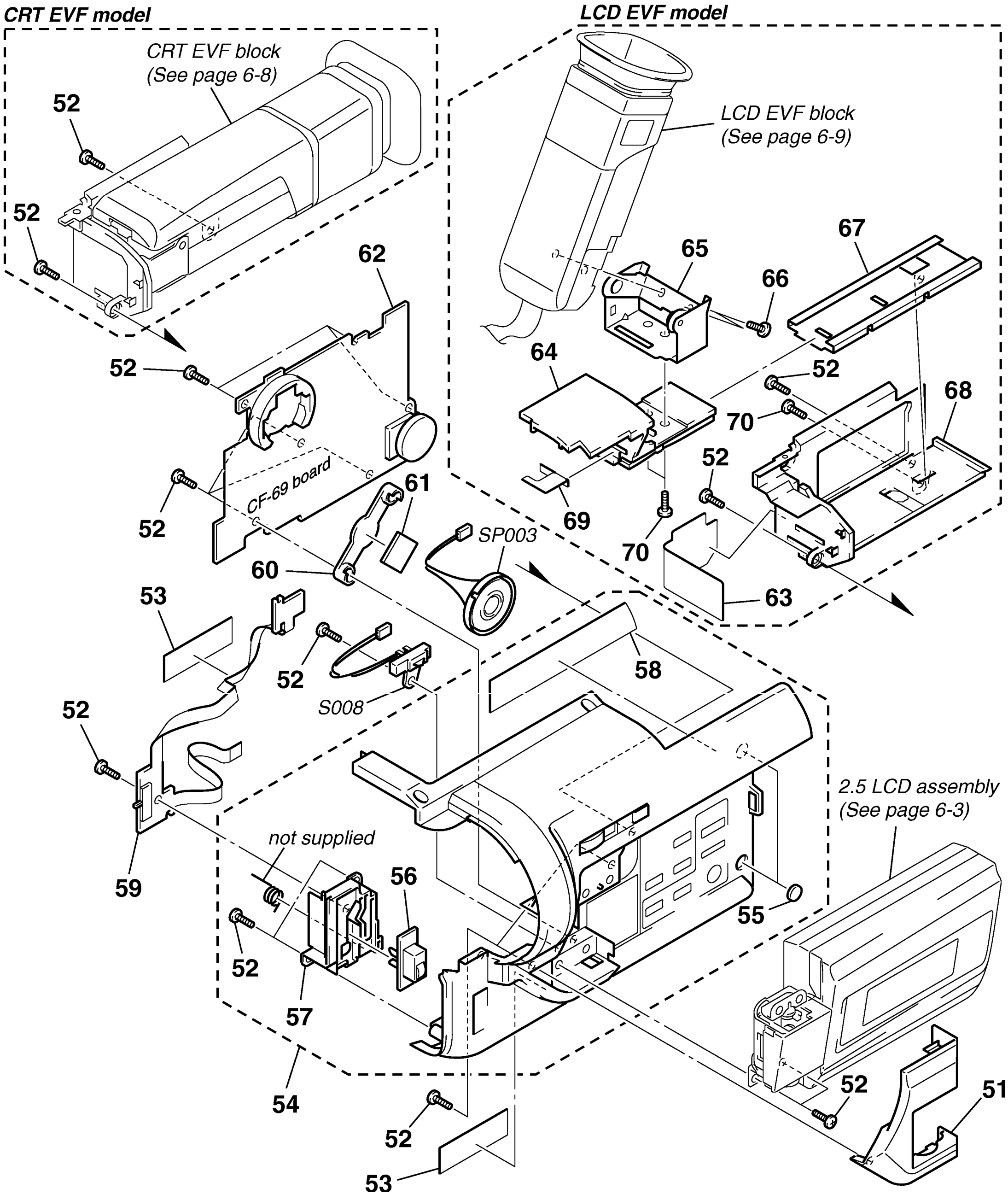
6-1-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	X-3949-376-1	CAP (N) ASSY, LENS	
2	X-3950-220-1	GRILLE (2.5) ASSY, MICROPHONE	
3	X-3950-217-1	PANEL (2.5) ASSY, F (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525)	
3	X-3950-218-1	PANEL (2.5) ASSY, F (TRV320E: AEP, UK, EE, NE, RU/TRV520E: AEP/TRV620E)	
3	X-3950-254-1	PANEL (2.5) ASSY, F (TRV420E: AEP)	
3	X-3950-489-1	PANEL ASSY (1030), F (TRV720/TRV720E: E, HK, CN)	
3	X-3950-490-1	PANEL ASSY (1031), F (TRV720E: AEP)	
4	3-968-729-01	SCREW (2X4)	
5	3-987-717-01	SCREW (TRIPOD)	
6	X-3950-221-1	RETAINER ASSY, MICROPHONE	
7	3-948-339-61	TAPPING	
* 8	3-059-031-01	CUSHION (MI)	
9	A-7074-267-A	MI-37 BOARD, COMPLETE (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
9	A-7074-421-A	MI-37 BOARD, COMPLETE (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	
10	1-676-818-31	FP-156 FLEXIBLE BOARD	
11	1-790-334-11	CABLE, FLEXIBLE FLAT (FFC-257S)	
* 12	3-059-032-01	CUSHION (SE)	
13	3-058-723-01	COVER, JACK	
14	1-475-141-61	COMMANDER, REMOTE (RMT-814)	
15	3-742-854-01	LID, BATTERY (for RMT-814)	
MIC5802	1-542-312-11	MICROPHONE (L)	
MIC5803	1-542-312-11	MICROPHONE (R)	

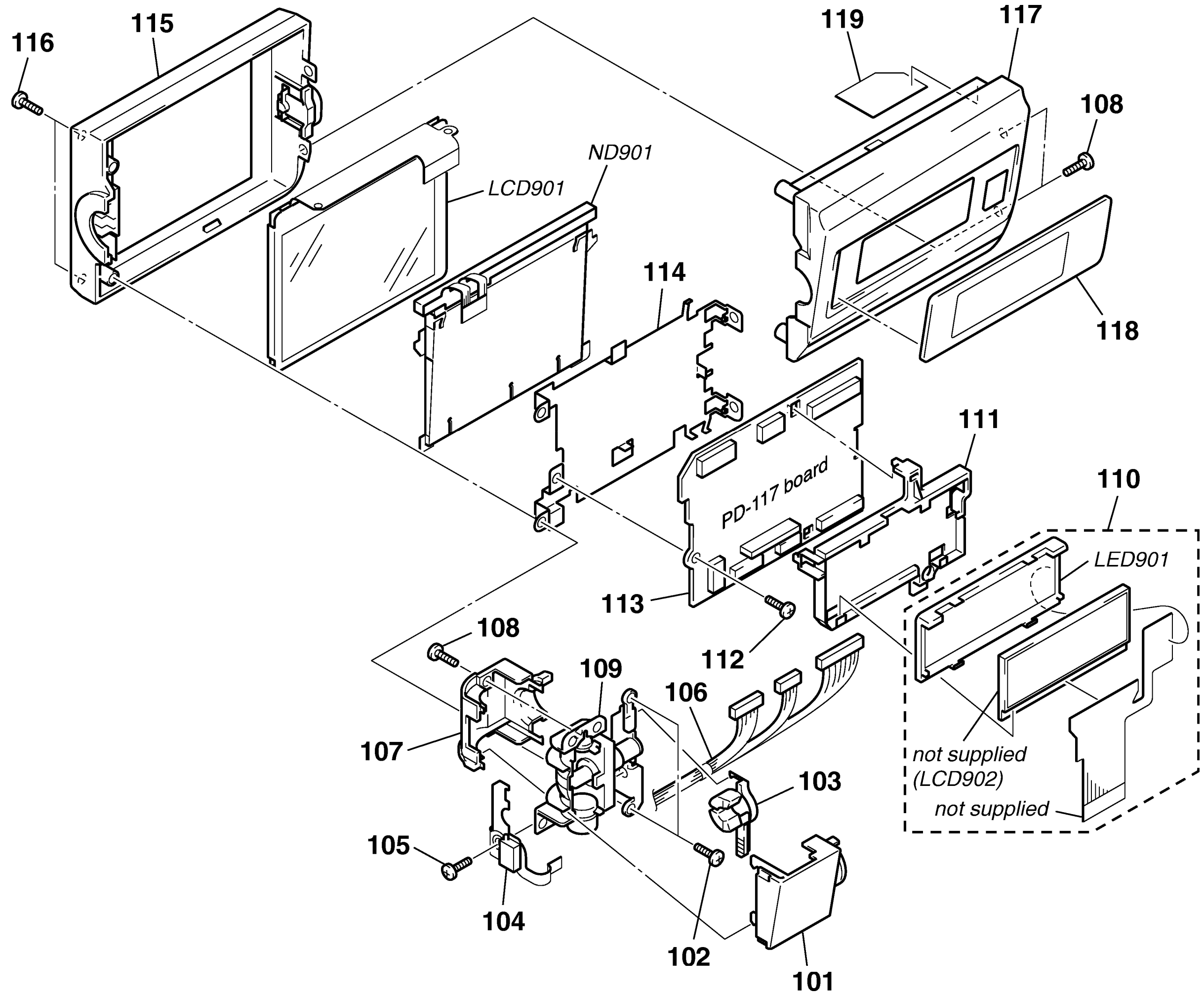
6-1-2. CABINET (R) SECTION (2.5 LCD model) (TRV320/TRV320E/TRV320P)

CRT EVF model: DCR-TRV320/TRV320E: E, HK, AUS, CN/TRV320P
LCD EVF model: DCR-TRV320E: AEP, UK, EE, NE, RU


CRT EVF model
CRT EVF block
(See page 6-8)
LCD EVF model
LCD EVF block
(See page 6-9)
52
52
62
67
65
66
64
52
68
70
52
52
CF-69 board
61
SP003
69
52
70
60
63
53
58
52
52
S008
2.5 LCD assembly
(See page 6-3)
not supplied
56
59
55
52
57
52
51
54
52
53

Ref. No.	Part No.	Description	Remark
51	3-058-670-01	COVER (R) (101), HINGE (TRV320/TRV320P)	
51	3-058-670-11	COVER (R) (101), HINGE (TRV320E)	
52	3-948-339-61	TAPPING	
53	3-941-343-21	TAPE (A)	
54	X-3950-249-1	CABINET (R) (101M) ASSY	
55	3-959-978-02	CUSHION, PANEL	
56	3-058-698-01	KNOB (100), MF	
57	3-058-697-01	RETAINER (100), MF	
* 58	3-059-650-01	BLIND (B) (101), VF	
59	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)	
* 60	3-058-659-01	RETAINER (101), SPEAKER	
* 61	3-058-658-01	SPACER (101), SPEAKER	
62	A-7074-327-A	CF-69 BOARD, COMPLETE (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)	
62	A-7074-350-A	CF-69 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU)	
* 63	3-058-641-01	GUIDE (100), HARNESS (TRV320E: AEP, UK, EE, NE, RU)	
64	X-3950-231-1	BASE (100) ASSY, VF (TRV320E: AEP, UK, EE, NE, RU)	
65	X-3950-230-1	HINGE ASSY, VF (TRV320: AEP, UK, EE, NE, RU)	
66	3-948-339-81	TAPPING	
* 67	3-058-639-01	SHEET METAL (100), SLIDE (TRV320E: AEP, UK, EE, NE, RU)	
68	X-3950-229-1	BASE (100) ASSY, SLIDE (TRV320E: AEP, UK, EE, NE, RU)	
* 69	3-058-640-01	RETAINER (100), HARNESS (TRV320E: AEP, UK, EE, NE, RU)	
70	3-968-729-01	SCREW (2X4)	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
SP003	1-529-590-11	SPEAKER (2.0cm)	

6-1-3. 2.5 LCD ASSEMBLY SECTION (TRV320/TRV320E/TRV320P)



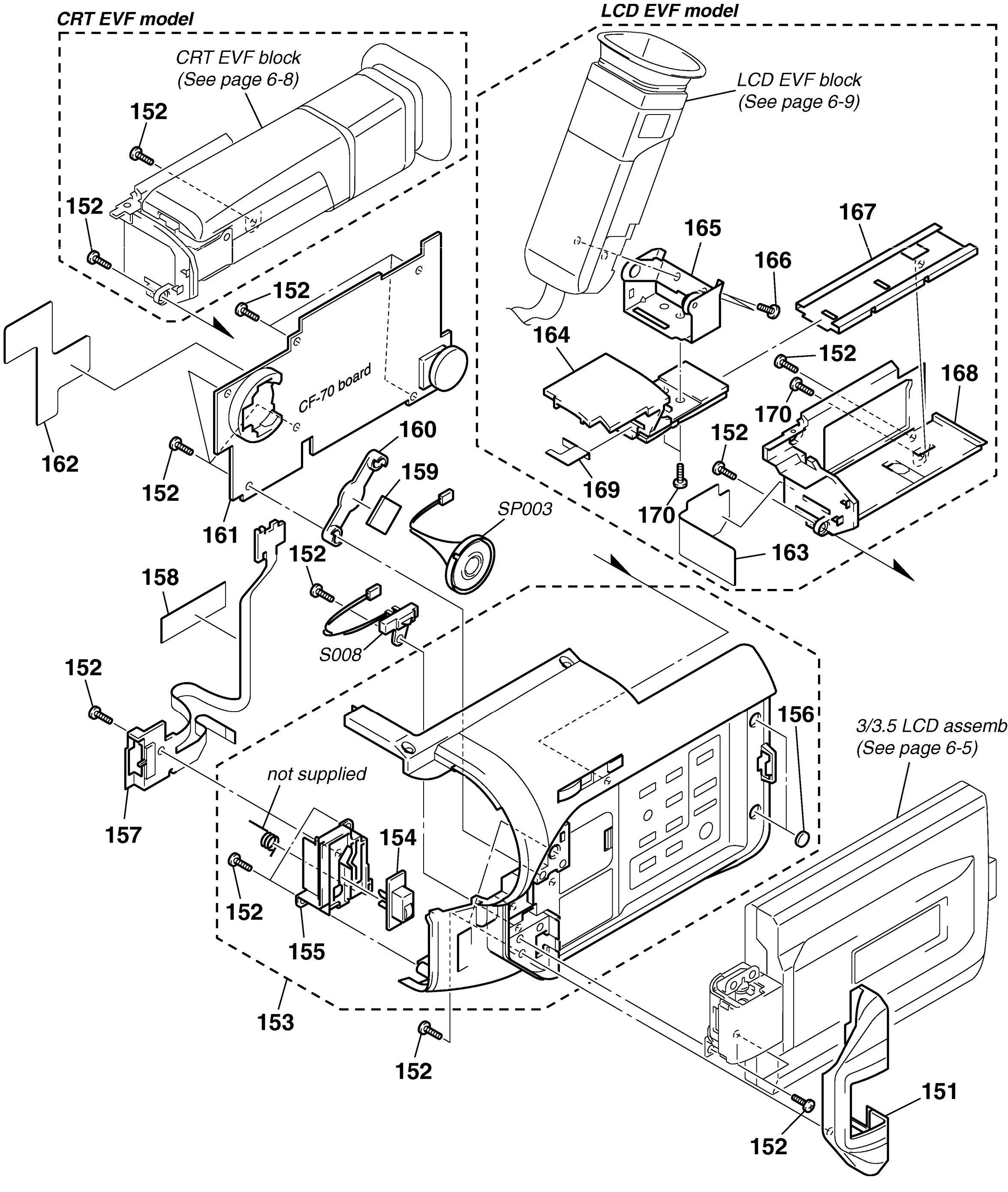
(Note) About PD-117 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
101	3-058-671-01	COVER (C) (101), HINGE	
102	3-948-339-31	SCREW, TAPPING	
* 103	3-058-672-01	CLAMP, HARNESS	
104	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)	
105	4-981-286-01	SCREW (M1.7X2) (IB LOCK)	
106	1-960-225-11	HARNESS (DP-83)	
107	3-058-673-01	COVER (M), HINGE	
108	3-968-729-01	SCREW (2X4)	
109	X-3950-237-1	HINGE ASSY	
110	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)	
111	3-058-667-01	HOLDER (101), LCD	
112	3-713-786-21	SCREW (M2X3)	
113	A-7074-272-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 61K) (Note)	
113	A-7074-280-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 123K) (Note)	
113	A-7074-290-A	PD-117 BOARD, COMPLETE (2.5 LCD TYPE C 61K) (Note)	
114	3-058-666-01	FRAME (101), PANEL	
115	X-3950-236-1	CABINET (M) (101) ASSY, P	
116	3-948-339-81	TAPPING	
117	3-058-665-01	CABINET (C) (101), P	
118	3-058-668-41	WINDOW (101), LCD (TRV320/TRV320P)	
118	3-058-668-51	WINDOW (101), LCD (TRV320E)	
* 119	3-061-970-01	SHEET (101), ELECTROSTATIC	
LCD901	1-803-852-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 61K) (Note)	
LCD901	1-803-853-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 123K) (Note)	
LCD901	1-803-859-31	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE C 61K) (Note)	
⚠LED901	1-517-866-11	LIGHT, BACK	
⚠ND901	1-517-751-11	TUBE, FLUORESCENT, COLD CATHODE (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)	
⚠ND901	1-517-751-21	TUBE, FLUORESCENT, COLD CATHODE (TRV320E: AEP, UK, EE, NE, RU)	

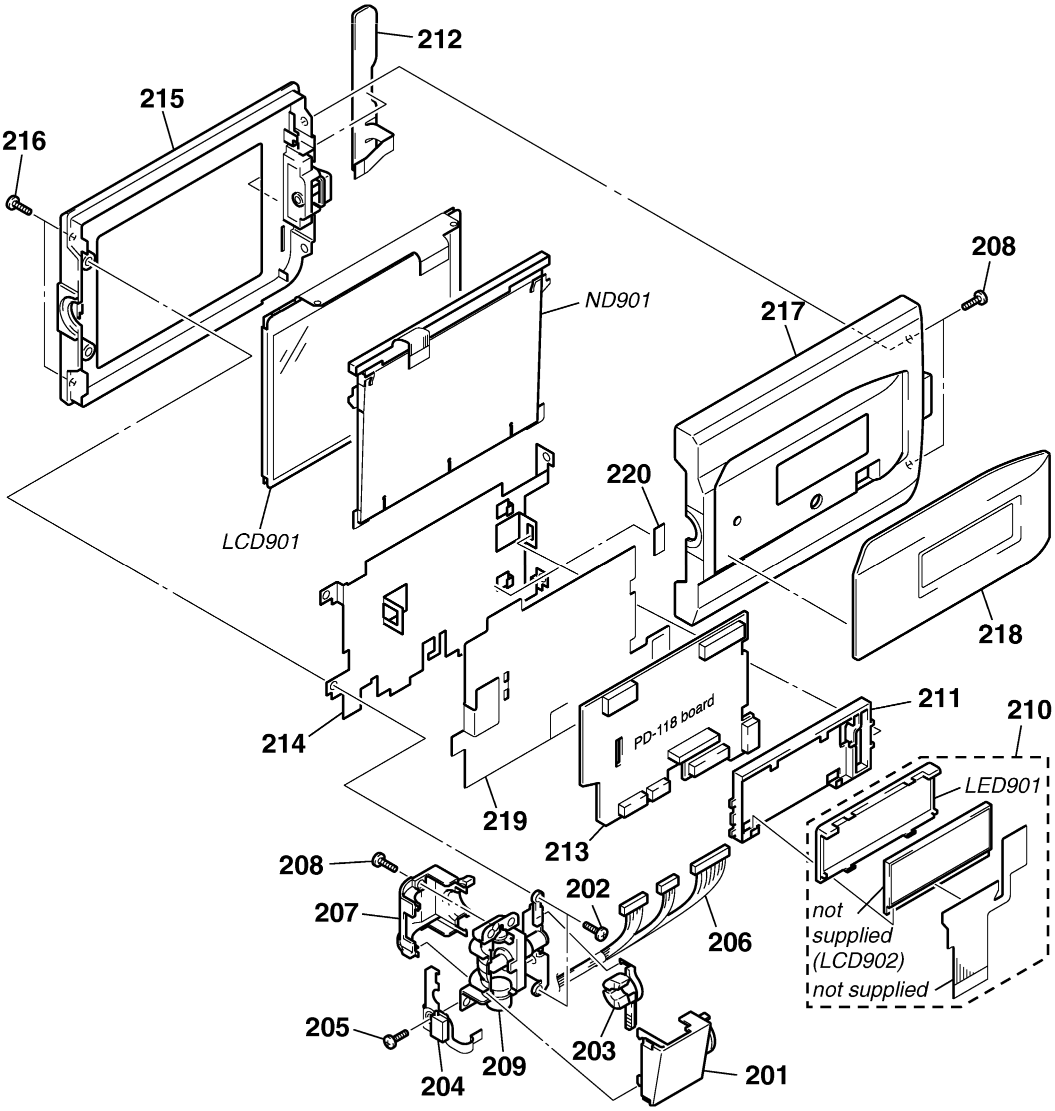
6-1-4. CABINET (R) SECTION (3/3.5 LCD model) (TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)

CRT EVF model: DCR-TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P
LCD EVF model: DCR-TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E


CRT EVF model
CRT EVF block
(See page 6-8)
152
152
152
LCD EVF model
LCD EVF block
(See page 6-9)
165
167
166
164
152
168
170
152
CF-70 board
160
159
SP003
162
152
161
169
170
163
158
152
S008
152
156
3/3.5 LCD assembly
(See page 6-5)
not supplied
154
157
152
155
153
152
151
152

Ref. No.	Part No.	Description	Remark
151	3-058-721-01	COVER (R (102)), HINGE	
152	3-948-339-61	TAPPING	
153	X-3950-239-1	CABINET (R) (102) ASSY	
154	3-058-705-01	KNOB (102), MF	
155	3-058-697-01	RETAINER (100), MF	
156	3-959-978-02	CUSHION, PANEL	
157	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)	
158	3-941-343-21	TAPE (A)	
* 159	3-058-658-01	SPACER (101), SPEAKER	
* 160	3-058-659-01	RETAINER (101), SPEAKER	
161	A-7074-344-A	CF-70 BOARD, COMPLETE (TRV420E: CN/ TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
161	A-7074-373-A	CF-70 BOARD, COMPLETE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
* 162	3-059-708-01	SHEET (102), CF	
* 163	3-058-641-01	GUIDE (100), HARNESS (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
164	X-3950-231-1	BASE (100) ASSY, VF (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
165	X-3950-230-1	HINGE ASSY, VF (TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E)	
166	3-948-339-81	TAPPING	
* 167	3-058-639-01	SHEET METAL (100), SLIDE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
168	X-3950-229-1	BASE (100) ASSY, SLIDE (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
* 169	3-058-640-01	RETAINER (100), HARNESS (TRV420E: AEP/ TRV520E: AEP/TRV525/TRV620E)	
170	3-968-729-01	SCREW (2X4)	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
SP003	1-529-590-11	SPEAKER (2.0cm)	

6-1-5. 3/3.5 LCD ASSEMBLY SECTION (TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)

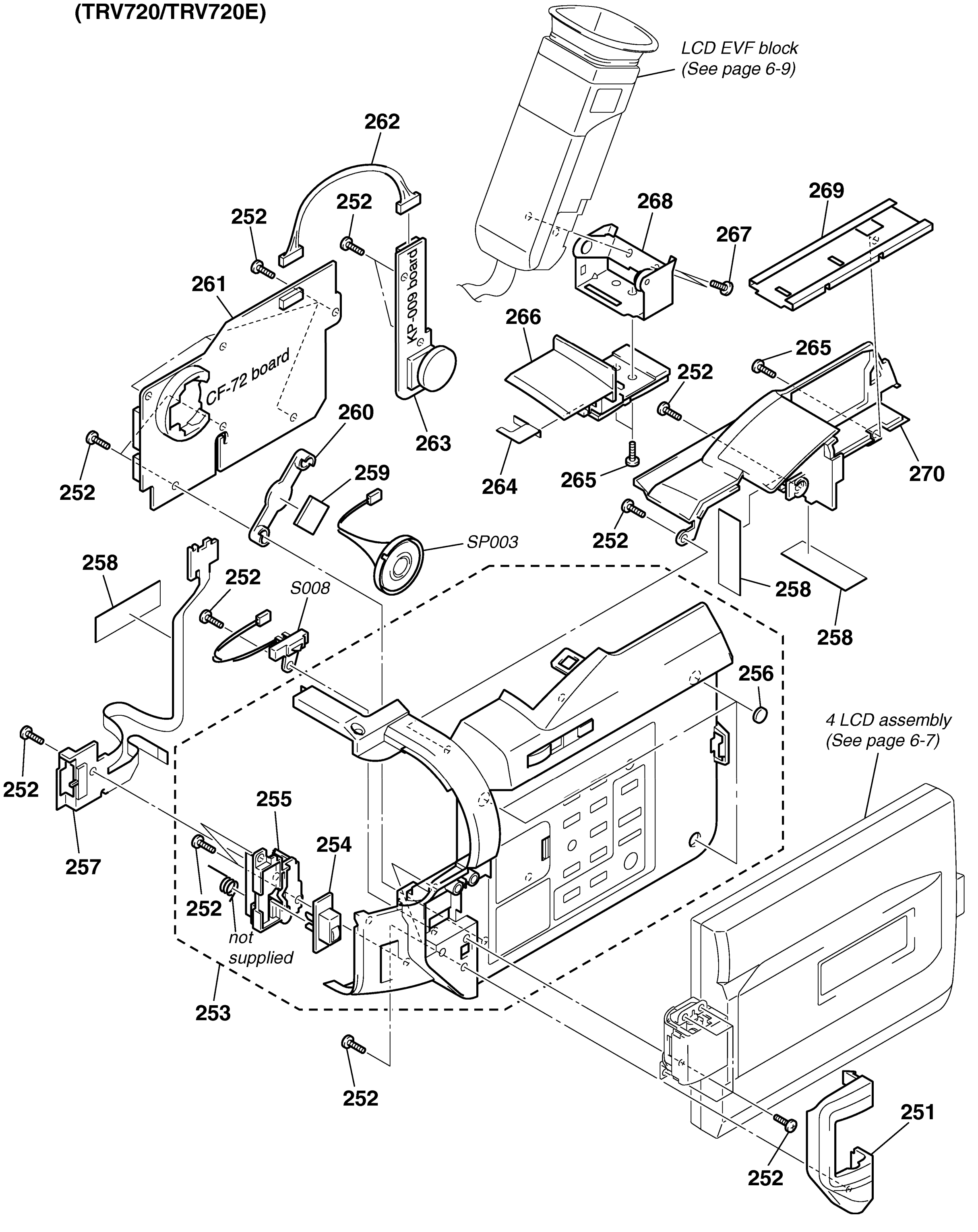


(Note) About PD-118 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

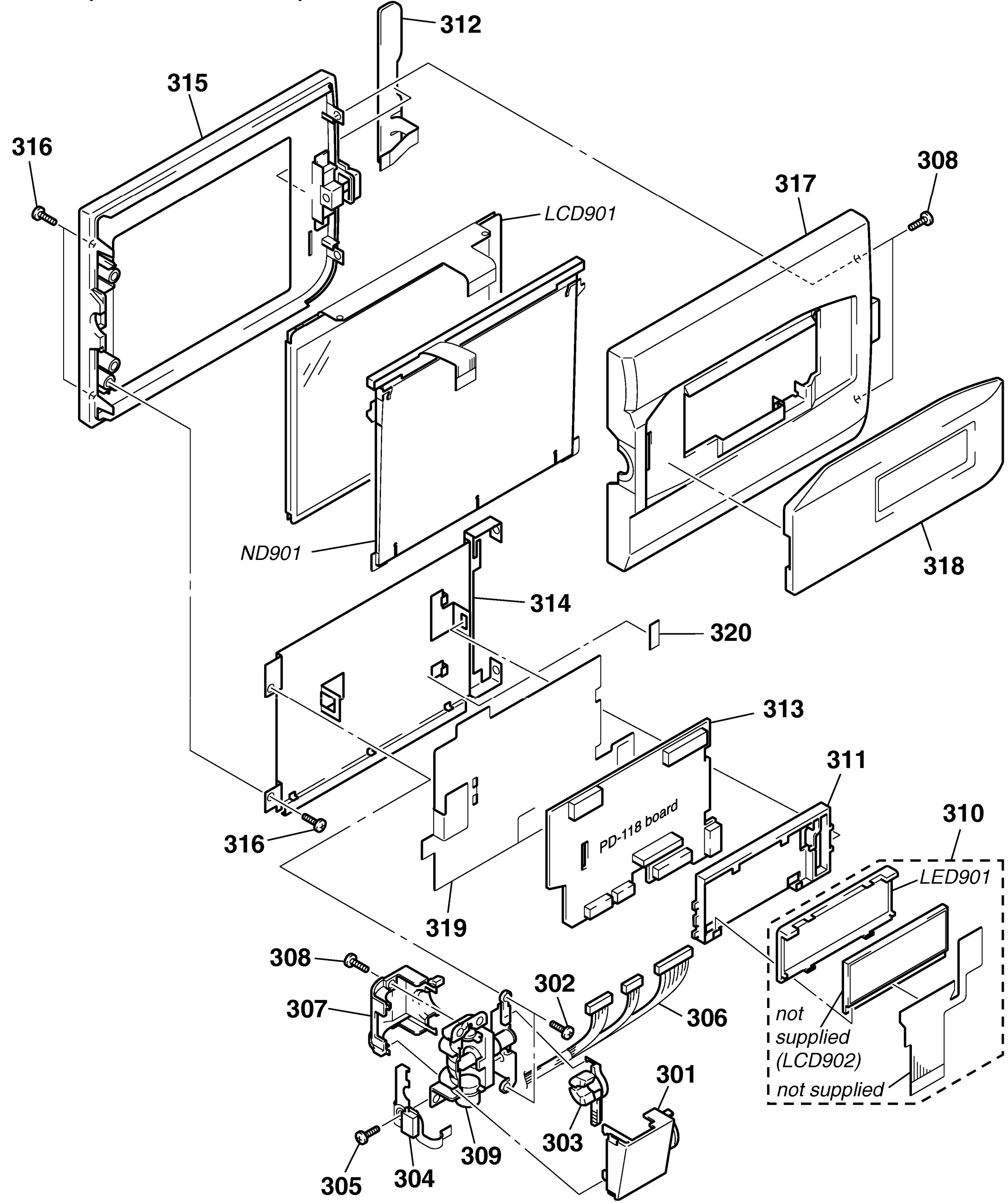
Ref. No.	Part No.	Description	Remark
201	3-058-722-01	COVER (C (102)), HINGE	
202	3-948-339-31	SCREW, TAPPING	
* 203	3-058-672-01	CLAMP, HARNESS	
204	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)	
205	4-981-286-01	SCREW (M1.7X2) (IB LOCK)	
206	1-960-225-11	HARNESS (DP-83)	
207	3-058-673-01	COVER (M), HINGE	
208	3-968-729-01	SCREW (2X4)	
209	X-3950-237-1	HINGE ASSY	
210	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)	
211	3-058-715-01	HOLDER (102), LCD	
212	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000)	
213	A-7074-348-A	PD-118 BOARD, COMPLETE (3.5 LCD TYPE S)	(Note)
213	A-7074-374-A	PD-118 BOARD, COMPLETE (3 LCD TYPE S)	(Note)
213	A-7074-377-A	PD-118 BOARD, COMPLETE (3.5 LCD TYPE C)	(Note)
214	3-058-714-01	FRAME (102), PANEL	
215	X-3950-240-1	CABINET (M) (102) ASSY, P	(TRV520/TRV520E/TRV520P/TRV620E)
215	X-3950-241-1	CABINET (M) (102) ASSY, P	(TRV420E/TRV525)
216	3-948-339-81	TAPPING	
217	X-3950-242-1	CABINET (C) (102) ASSY, P	
218	3-058-716-01	WINDOW (102), LCD (TRV520/TRV520P)	
218	3-058-716-11	WINDOW (102), LCD (TRV525)	
218	3-058-716-21	WINDOW (102), LCD (TRV520E)	
218	3-058-716-31	WINDOW (102), LCD (TRV420E)	
218	3-058-716-51	WINDOW (102), LCD (TRV620E)	
* 219	3-058-720-01	INSULATING SHEET (B (102)), PD	
* 220	3-062-064-01	PD SHEET	
LCD901	1-803-854-21	INDICATOR MODULE, LIQUID CRYSTAL	(3 LCD TYPE S) (Note)
LCD901	1-803-855-21	INDICATOR MODULE, LIQUID CRYSTAL	(3.5 LCD TYPE S) (Note)
LCD901	1-803-861-21	INDICATOR MODULE, LIQUID CRYSTAL	(3.5 LCD TYPE C) (Note)
⚠LED901	1-517-866-11	LIGHT, BACK	
⚠ND901	1-517-855-21	TUBE, FLUORESCENT, COLD CATHODE	(3.5 LCD model) (TRV520/TRV520E/TRV520P/TRV620E)
⚠ND901	1-517-856-21	TUBE, FLUORESCENT, COLD CATHODE	(3 LCD model) (TRV420E/TRV525)

6-1-6. CABINET (R) SECTION (4 LCD model) (TRV720/TRV720E)


LCD EVF block
(See page 6-9)
262
252
252
268
269
267
261
KP-009 board
266
CF-72 board
265
252
260
263
259
264
265
270
252
SP003
252
258
252
S008
258
258
256
4 LCD assembly
(See page 6-7)
252
255
254
257
252
not supplied
253
252
251
252

Ref. No.	Part No.	Description	Remark
251	3-059-547-01	COVER (R) (103), HINGE	
252	3-948-339-61	TAPPING	
253	X-3950-441-1	CABINET (R) (103) ASSY	
254	3-059-533-01	KNOB (103), MF	
255	3-059-532-01	RETAINER (103), MF	
256	3-959-978-02	CUSHION, PANEL	
257	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000)	
258	3-941-343-21	TAPE (A)	
* 259	3-058-658-01	SPACER (101), SPEAKER	
* 260	3-058-659-01	RETAINER (101), SPEAKER	
261	A-7074-378-A	CF-72 BOARD, COMPLETE	
262	1-960-227-11	HARNESS (DP-87)	
263	A-7074-382-A	KP-009 BOARD, COMPLETE	
* 264	3-058-640-01	RETAINER (100), HARNESS	
265	3-968-729-01	SCREW (2X4)	
266	X-3950-551-1	BASE (103) ASSY, SLIDE	
267	3-948-339-81	TAPPING	
268	X-3950-230-1	HINGE ASSY, VF	
* 269	3-060-376-01	SHEET METAL (103), SLIDE	
270	X-3950-552-1	BASE (103) ASSY, VF	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
SP003	1-529-590-11	SPEAKER (2.0cm)	

6-1-7. 4 LCD ASSEMBLY SECTION (TRV720/TRV720E)



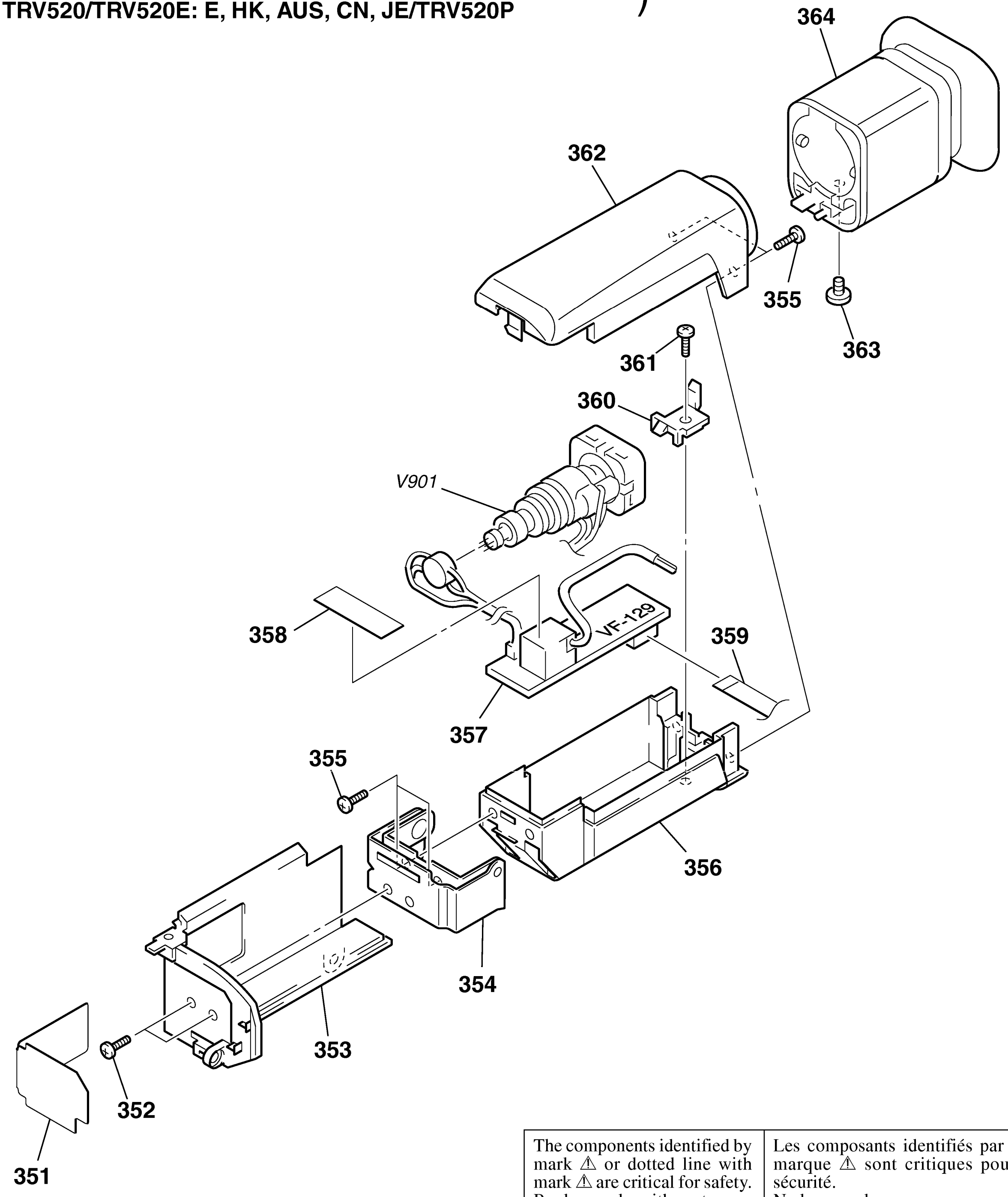
(Note) About PD-118 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
301	3-059-548-01	COVER (C) (103), HINGE	
302	3-948-339-31	SCREW, TAPPING	
* 303	3-058-672-01	CLAMP, HARNESS	
304	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000)	
305	4-981-286-01	SCREW (M1.7X2) (IB LOCK)	
306	1-960-225-11	HARNESS (DP-83)	
307	3-058-673-01	COVER (M), HINGE	
308	3-968-729-01	SCREW (2X4)	
309	X-3950-237-1	HINGE ASSY	
310	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE)	
311	3-058-715-01	HOLDER (102), LCD	
312	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000)	
313	A-7074-371-A	PD-118 BOARD, COMPLETE (4 LCD TYPE S)	(Note)
313	A-7074-383-A	PD-118 BOARD, COMPLETE (4 LCD TYPE C)	(Note)
314	3-059-546-01	FRAME (103), PANEL	
315	X-3950-444-1	CABINET (M) (103) ASSY, P	
316	3-948-339-81	TAPPING	
317	X-3950-445-1	CABINET (C) (103) ASSY, P	
318	3-059-549-01	WINDOW (103), LCD (TRV720)	
318	3-059-549-11	WINDOW (103), LCD (TRV720E)	
* 319	3-058-720-01	INSULATING SHEET (B (102)), PD	
* 320	3-062-064-01	PD SHEET	
LCD901	1-803-863-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE C)	(Note)
LCD901	1-803-893-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE S)	(Note)
⚠LED901	1-517-866-11	LIGHT, BACK	
⚠ND901	1-517-852-21	TUBE, FLUORESCENT, COLD CATHODE	

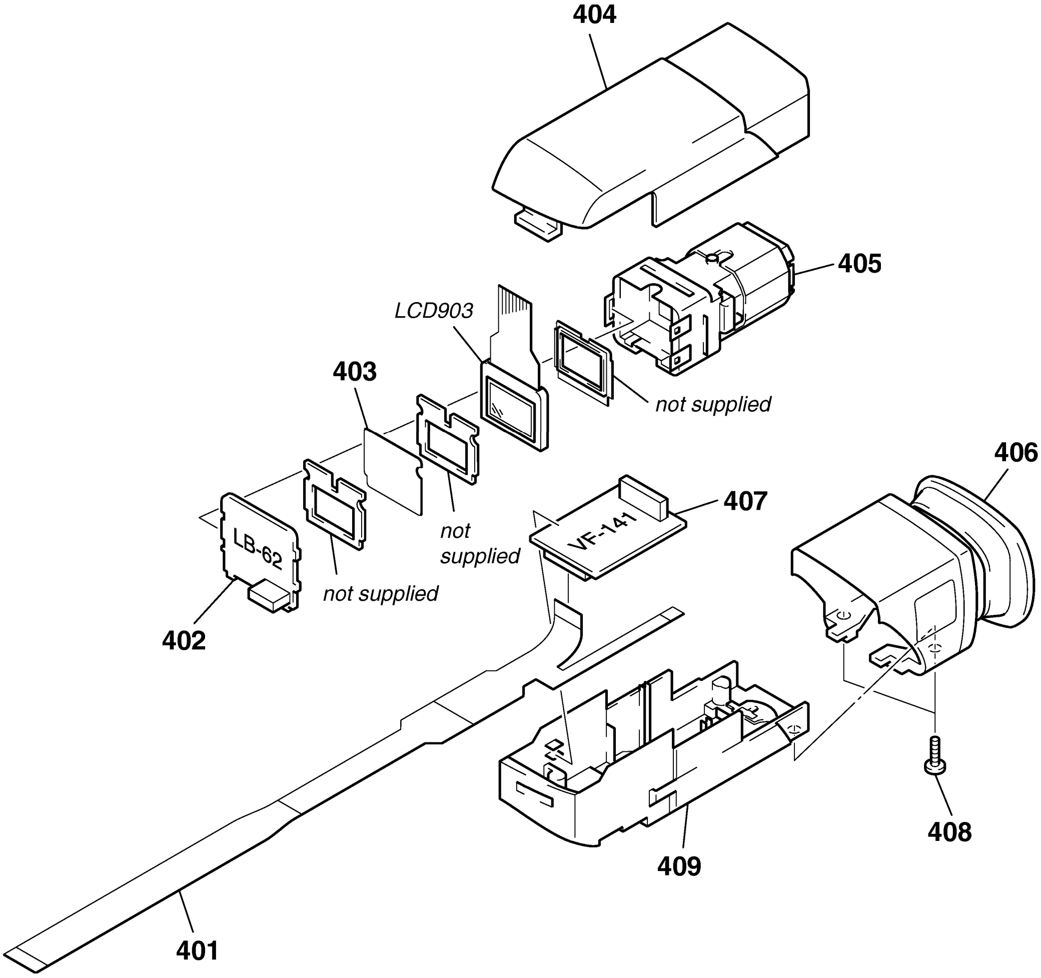
6-1-8. CRT EVF BLOCK SECTION
(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/ TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

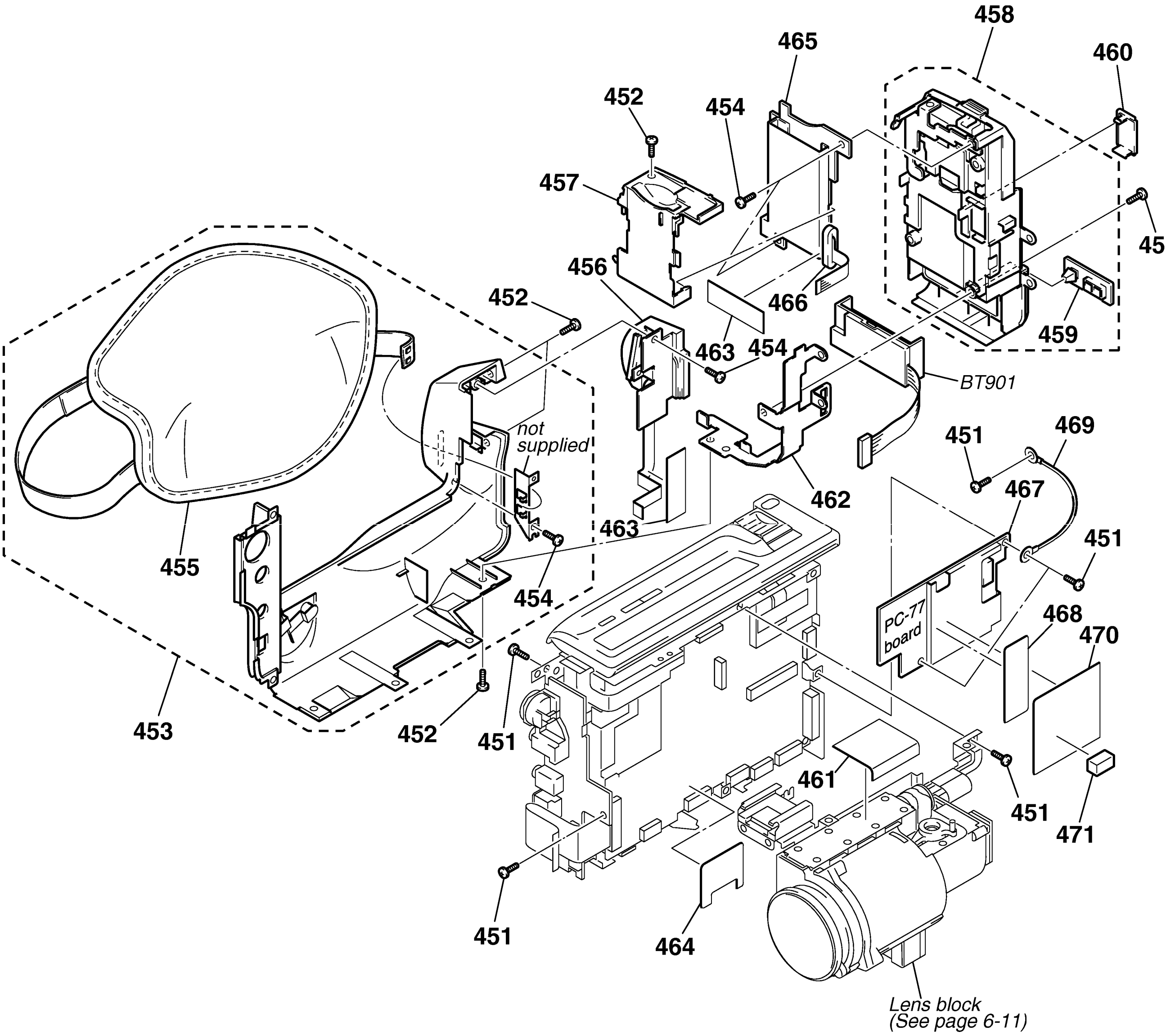
Ref. No.	Part No.	Description	Remark
* 351	3-058-641-01	GUIDE (100), HARNESS	
352	3-968-729-01	SCREW (2X4)	
353	X-3950-234-1	BASE (B) (100) ASSY, VF	
354	X-3950-230-1	HINGE ASSY, VF	
355	3-948-339-81	TAPPING	
356	3-058-644-01	CABINET (LOWER) (B) (100), EVF	
357	A-7073-838-A	VF-129 BOARD, COMPLETE (TRV320/TRV320P/TRV520/TRV520P)	
357	A-7073-855-A	VF-129 BOARD, COMPLETE (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)	
358	3-941-343-21	TAPE (A)	
359	1-792-454-11	CABLE, FLEXIBLE FLAT (FFC-289)	
360	3-053-681-01	TALLY, EVF	
361	3-948-339-61	TAPPING	
362	X-3950-233-1	CABINET (UPPER) (B) (100) ASSY, EVF	
363	3-975-898-01	SCREW (T), F LOCK	
364	X-3949-329-1	FINDER (S) ASSY	
⚠V901	1-452-673-61	CRT ASSY (M01KXX90WB)	

6-1-9. LCD EVF BLOCK SECTION
(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/
TRV525/TRV620E/TRV720/TRV720E)



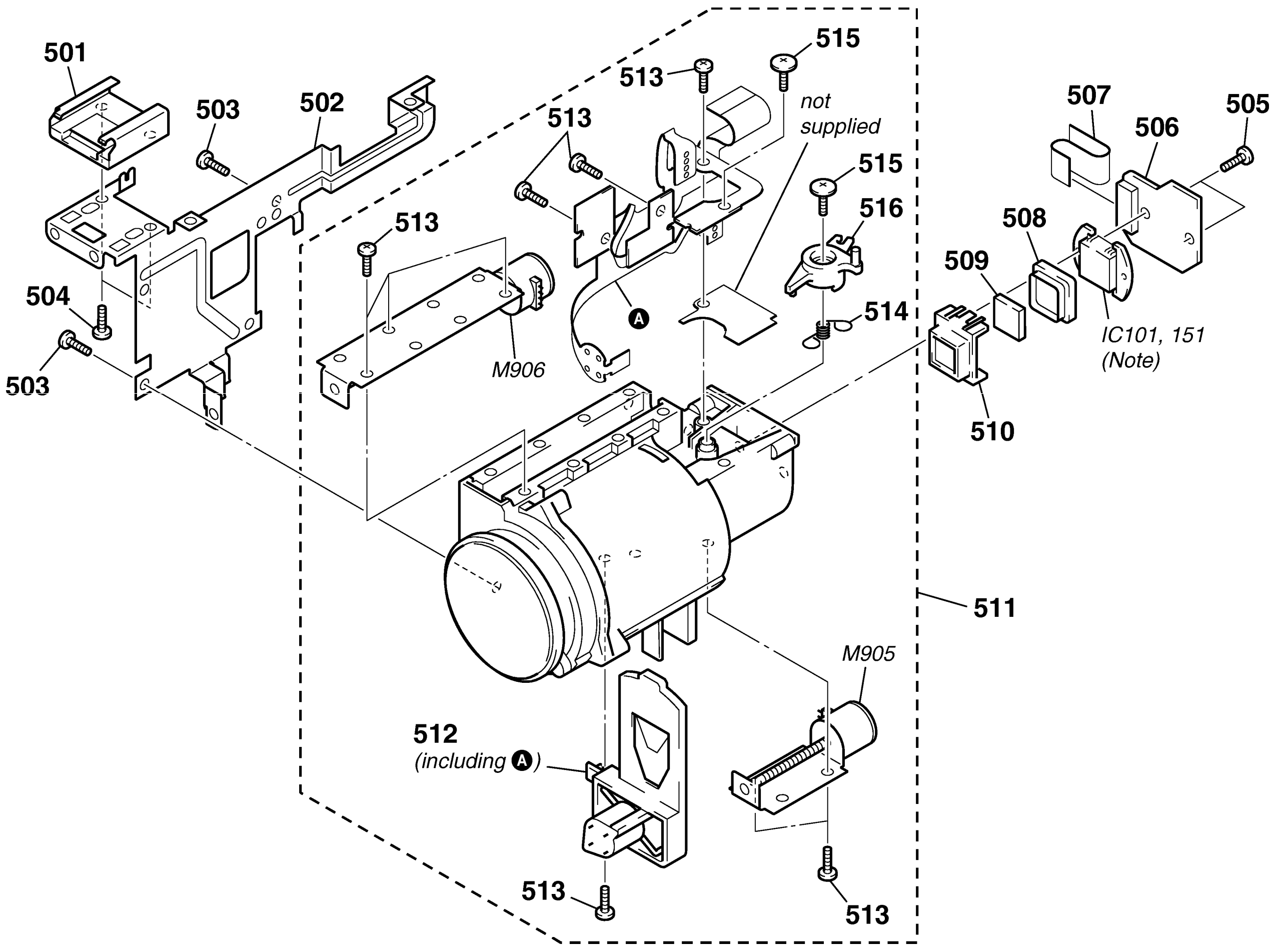
Ref. No.	Part No.	Description	Remark
401	1-676-299-11	FP-151 FLEXIBLE BOARD	
402	A-7074-192-A	LB-62 BOARD, COMPLETE (TRV525/TRV620E/TRV720/TRV720E)	
402	A-7074-351-A	LB-62 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
403	3-058-233-01	ILLUMINATOR (97), BL	
404	3-058-638-01	CABINET (UPPER) (100), EVF (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E)	
404	3-060-370-01	CABINET (UPPER) (103), EVF (TRV720/TRV720E)	
405	X-3950-101-1	LENS (C) (97) ASSY, VF (TRV525/TRV620E/TRV720/TRV720E)	
405	X-3950-232-1	LENS (B) (100) ASSY, VF (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
406	X-3950-227-1	CABINET (REAR) (100) ASSY, EVF (TRV525/TRV620E)	
406	X-3950-228-1	CABINET (REAR) (B) (100) ASSY, EVF (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
406	X-3950-550-1	CABINET (REAR) (103) ASSY, EVF (TRV720/TRV720E)	
407	A-7074-193-A	VF-141 BOARD, COMPLETE (TRV525/TRV620E/TRV720/TRV720E)	
407	A-7074-352-A	VF-141 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
408	3-948-339-81	TAPPING	
409	X-3950-226-1	CABINET (LOWER) (100) ASSY, EVF (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E)	
409	X-3950-549-1	CABINET (LOWER) (103) ASSY, EVF (TRV720/TRV720E)	
LCD903	8-753-026-74	LCX032AK-1 (TRV525/TRV620E/TRV720/TRV720E)	
LCD903	8-753-026-76	LCX032AL-5 (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	

6-1-10. CABINET (L) SECTION


458
465
460
452
454
457
452
456
452
466
463
454
459
BT901
not supplied
451
469
467
462
463
451
455
454
PC-77 board
468
470
453
452
451
461
451
471
451
464
Lens block
(See page 6-11)

Ref. No.	Part No.	Description	Remark
451	3-713-786-21	SCREW (M2X3)	
452	3-968-729-01	SCREW (2X4)	
453	X-3950-434-1	CABINET (L) ASSY (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV720/TRV720E: E, HK, CN)	
453	X-3950-435-1	CABINET (L) ASSY (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
453	X-3950-453-1	CABINET (L) ASSY (TRV620E/TRV720E: AEP)	
454	3-948-339-61	TAPPING	
455	3-052-815-01	BELT (ES), GRIP	
456	1-418-800-11	SWITCH BLOCK, CONTROL (SS-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E)	
456	1-418-800-31	SWITCH BLOCK, CONTROL (SS-10000) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
457	X-3950-225-1	CABINET ASSY, MS	
458	X-3950-222-1	PANEL ASSY, BATTERY	
459	3-987-656-01	LID, JACK	
460	3-975-752-01	LID (BT), CPC	
* 461	3-062-065-01	FK SHEET	
462	3-058-619-01	SHEET METAL (LOWER), STRAP	
463	3-941-343-21	TAPE (A)	
* 464	3-059-461-01	SHEET, RP SHIELD	
465	1-676-823-21	FP-162 FLEXIBLE BOARD	
466	1-500-226-31	BEAD, FERRITE	
467	A-7074-328-A	PC-77 BOARD, COMPLETE	
* 468	3-061-337-01	SHEET (I), PC SHIELD	
469	1-960-596-11	HARNESS (HT-054)	
* 470	3-061-982-01	SHEET (S), ELECTROSTATIC	
* 471	3-062-053-01	SPACER, PC	
BT901	1-694-384-11	TERMINAL BOARD, BATTERY	

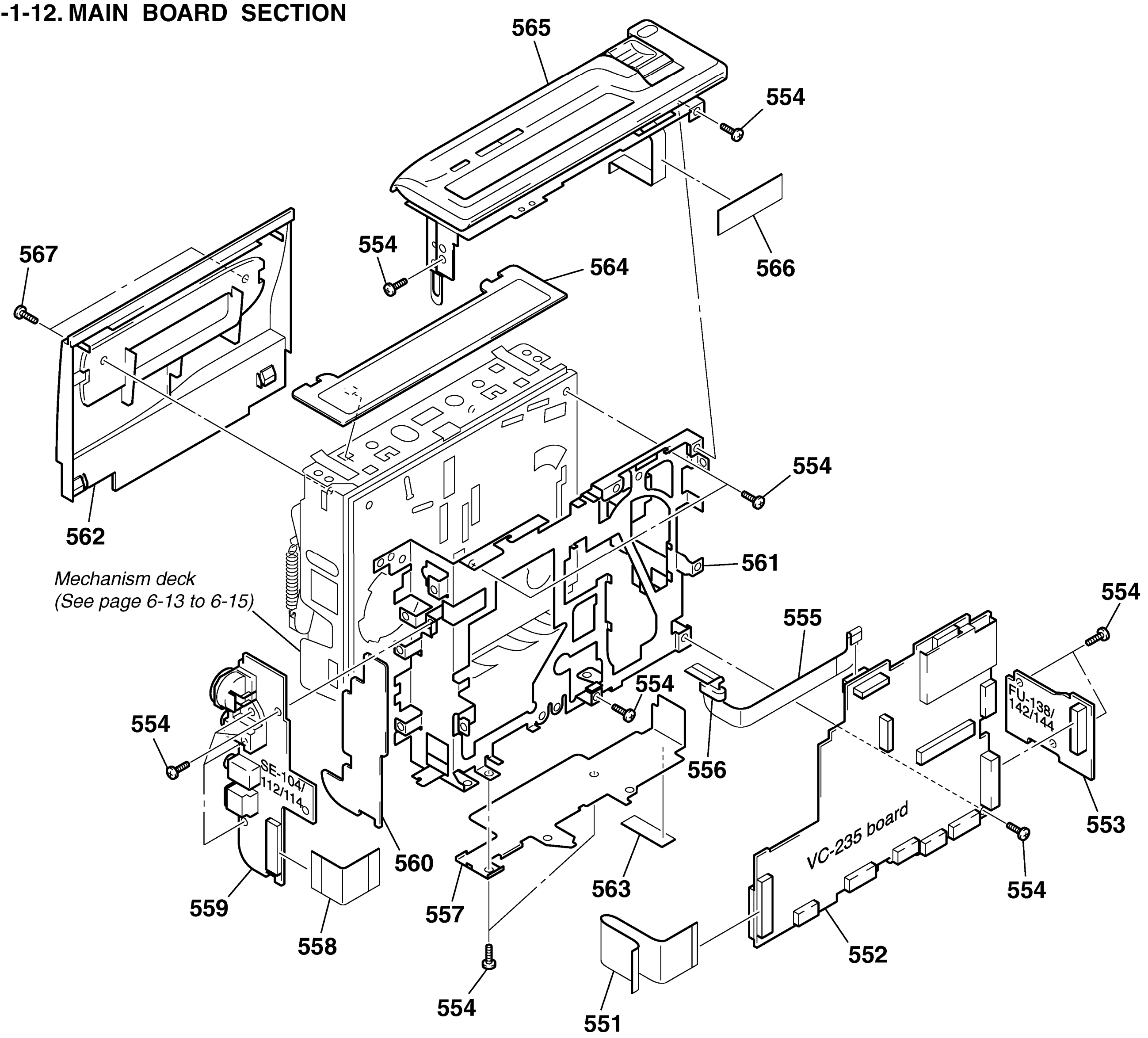
6-1-11. LENS BLOCK SECTION



(Note) Be sure to read "Precuations for Replcement of CCD Imager" on page 4-8, 4-10 when changing the CCD imager

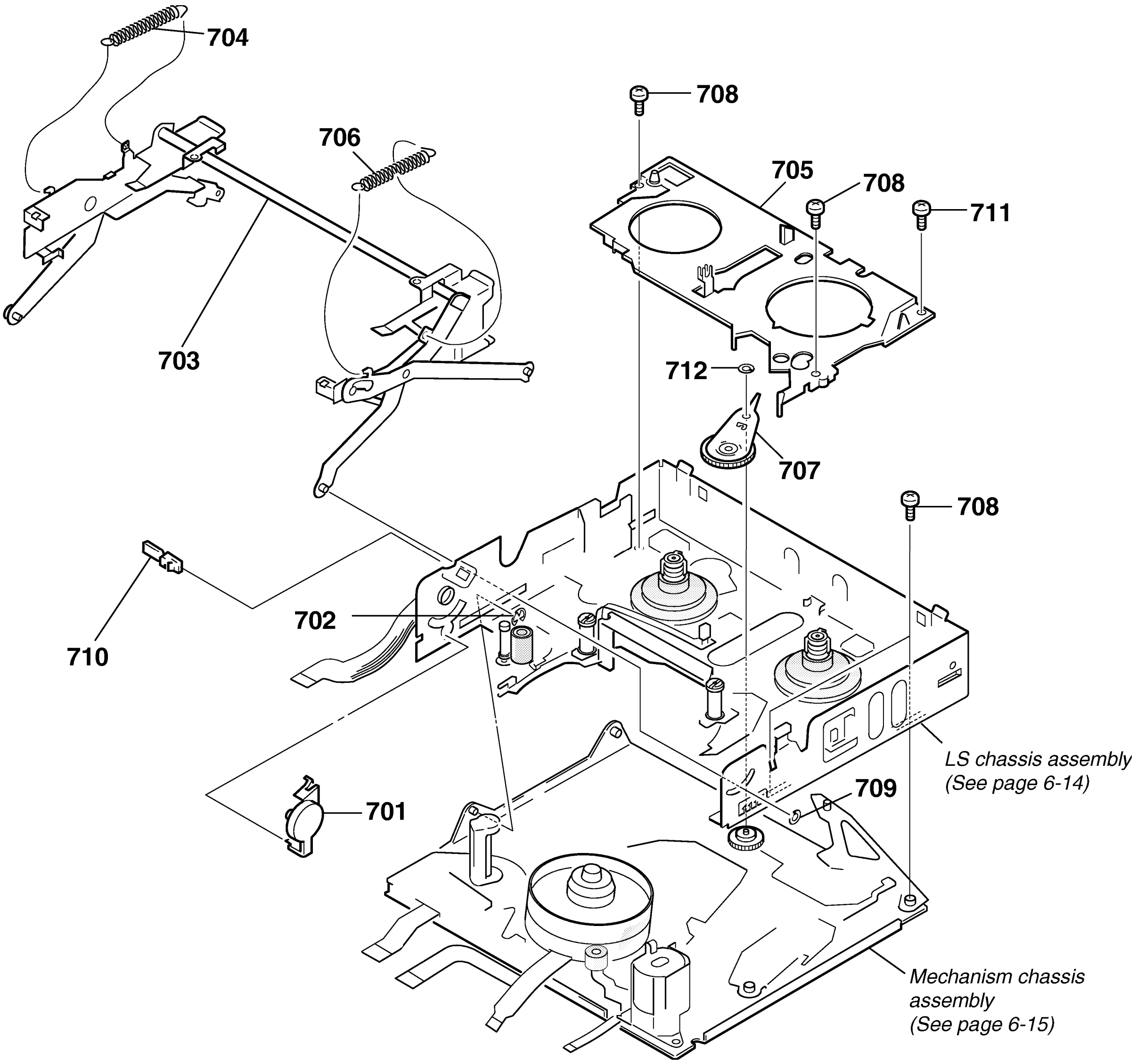
Ref. No.	Part No.	Description	Remark
501	1-793-996-11	CONNECTOR, EXTERNAL	
502	3-058-595-01	FRAME, LENS	
503	3-948-339-61	TAPPING	
504	3-989-735-01	SCREW (M1.7), LOCK ACE, P2	
505	3-318-203-11	SCREW (B1.7X6), TAPPING	
506	A-7074-270-A	CD-242 BOARD, COMPLETE (TRV320/TRV320P)	
506	A-7074-279-A	CD-244 BOARD, COMPLETE (TRV320E)	
506	A-7074-346-A	CD-266 BOARD, COMPLETE (TRV520/TRV520P/TRV525)	
506	A-7074-370-A	CD-271 BOARD, COMPLETE (TRV720E)	
506	A-7074-376-A	CD-267 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)	
506	A-7074-380-A	CD-270 BOARD, COMPLETE (TRV720)	
507	1-676-822-11	FP-161 FLEXIBLE BOARD	
508	3-968-054-11	RUBBER (FM), SHIELD	
509	1-758-155-21	FILTER BLOCK, OPTICAL (TRV320E/TRV420E/ TRV520E/TRV620E/TRV720E)	
509	1-758-216-21	FILTER BLOCK, OPTICAL (TRV320/TRV320P/ TRV520/TRV520P/TRV525/TRV720)	
510	3-978-981-11	ADAPTOR (FK), CCD FITTING	
511	8-848-736-01	DEVICE, LENS LSV-680A	
512	1-758-445-11	IRIS IR-680 (including FLEXIBLE BOARD)	
513	3-713-791-41	TAPPING (B1.7X5)	
514	3-059-508-01	SPRING, RETAIN	
515	3-056-022-01	TAPPING (B1.7X3.5)	
516	3-059-501-01	LEVER, IR	
IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720) (Note)	
IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E) (Note)	
M905	1-763-472-11	MOTOR, STEPPING (F680) (FOCUS)	
M906	1-763-471-11	MOTOR, STEPPING (Z680) (ZOOM)	

6-1-12. MAIN BOARD SECTION



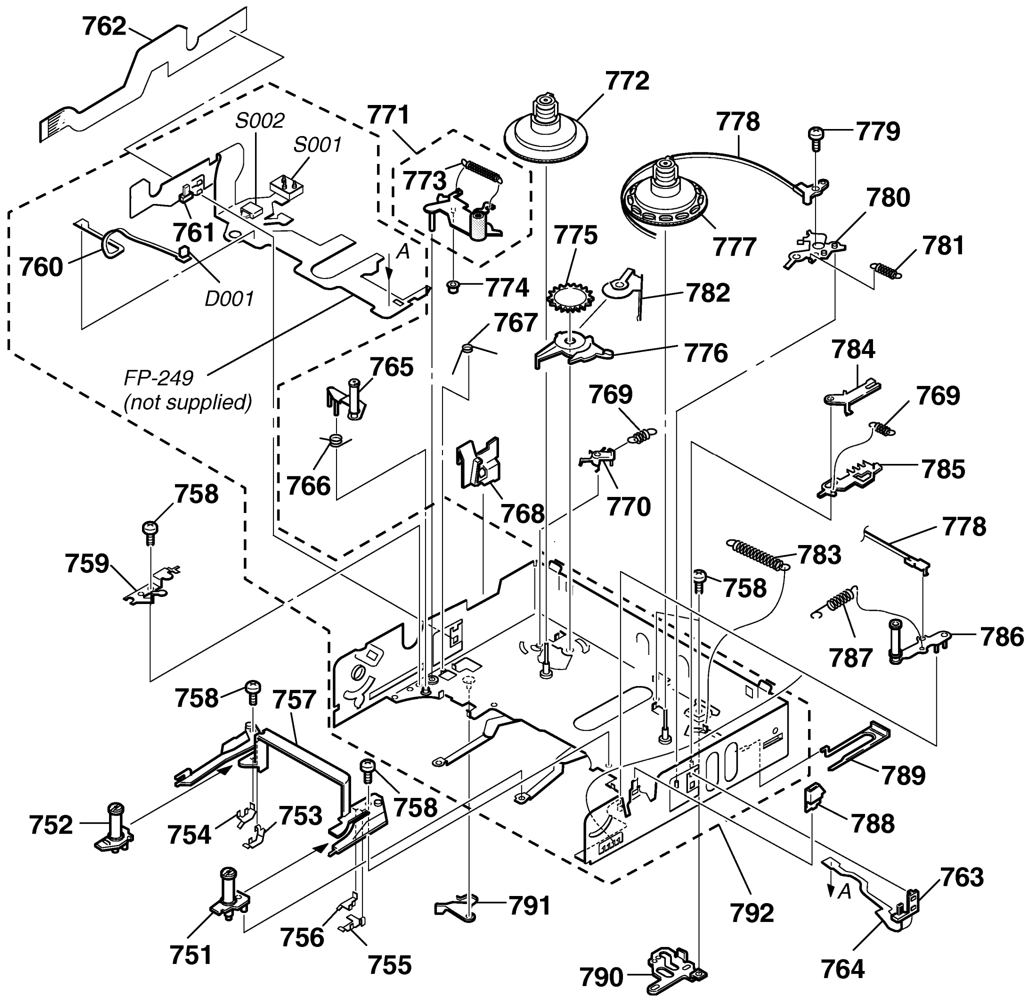
Ref. No.	Part No.	Description	Remark
551	1-676-819-11	FP-157 FLEXIBLE BOARD	
552	A-7094-873-A	VC-235 BOARD, COMPLETE (SERVICE)	(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)
552	A-7094-874-A	VC-235 BOARD, COMPLETE (SERVICE)	(TRV320/TRV320P/TRV520/TRV520P)
552	A-7094-875-A	VC-235 BOARD, COMPLETE (SERVICE)	(TRV525/TRV720)
552	A-7094-877-A	VC-235 BOARD, COMPLETE (SERVICE)	(TRV620E/TRV720E)
552	A-7094-878-A	VC-235 BOARD, COMPLETE (SERVICE)	(TRV320E: E, HK, AUS, CN/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)
553	A-7074-271-A	FU-138 BOARD, COMPLETE	(TRV320/TRV320E/TRV320P)
553	A-7074-347-A	FU-142 BOARD, COMPLETE	(TRV420E/TRV520/TRV520E/TRV520P/TRV525/TRV620E)
553	A-7074-381-A	FU-144 BOARD, COMPLETE	(TRV720/TRV720E)
554	3-713-786-21	SCREW (M2X3)	
555	1-676-821-11	FP-160 FLEXIBLE BOARD	
556	1-500-226-31	BEAD, FERRITE	
557	3-058-594-01	FRAME (B), MD	
558	1-676-820-11	FP-159 FLEXIBLE BOARD	
559	A-7074-329-A	SE-104 BOARD, COMPLETE	(TRV320/TRV320P)
559	A-7074-345-A	SE-112 BOARD, COMPLETE	(TRV520/TRV520P/TRV525)
559	A-7074-353-A	SE-104 BOARD, COMPLETE (TRV320E)	
559	A-7074-369-A	SE-114 BOARD, COMPLETE (TRV720E)	
559	A-7074-375-A	SE-112 BOARD, COMPLETE	(TRV420E/TRV520E/TRV620E)
559	A-7074-379-A	SE-114 BOARD, COMPLETE (TRV720)	
* 560	3-060-001-01	SHEET, MD	
561	3-058-593-01	FRAME (A), MD	
562	X-3950-224-1	LID ASSY, CASSETTE	
* 563	3-061-971-01	SHEET, MD FRAME (B) INSULATING	
564	X-3950-698-1	LID (MS) ASSY, LS	
565	1-418-799-11	SWITCH BLOCK, CONTROL (FK-10000)	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/TRV720/TRV720E)
565	1-418-799-21	SWITCH BLOCK, CONTROL (FK-10000)	(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)
566	3-941-343-21	TAPE (A)	
567	3-968-729-01	SCREW (2X4)	

6-1-13. CASSETTE COMPARTMENT ASSEMBLY


704
708
706
705
708
711
703
712
707
708
702
710
LS chassis assembly
(See page 6-14)
709
701
Mechanism chassis
assembly
(See page 6-15)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
701	A-7040-421-A	DAMPER ASSY		707	X-3945-399-1	GEAR ASSY, GOOSENECK	
702	7-624-102-04	STOP RING 1.5, TYPE -E		708	3-947-503-01	SCREW (M1.4)	
703	X-3949-153-2	CASSETTE COMPARTMENT ASSY		709	3-979-686-01	WASHER, STOPPER	
704	3-965-587-03	SPRING (POWER TENSION), TENSION		710	3-971-076-01	FASTENER, D	
705	3-989-479-01	RETAINER (2), GOOSENECK		711	3-976-055-01	SCREW (M1.4X1)	
706	3-973-268-01	SPRING (POWER TENSION), TENSION		712	3-331-007-21	WASHER	

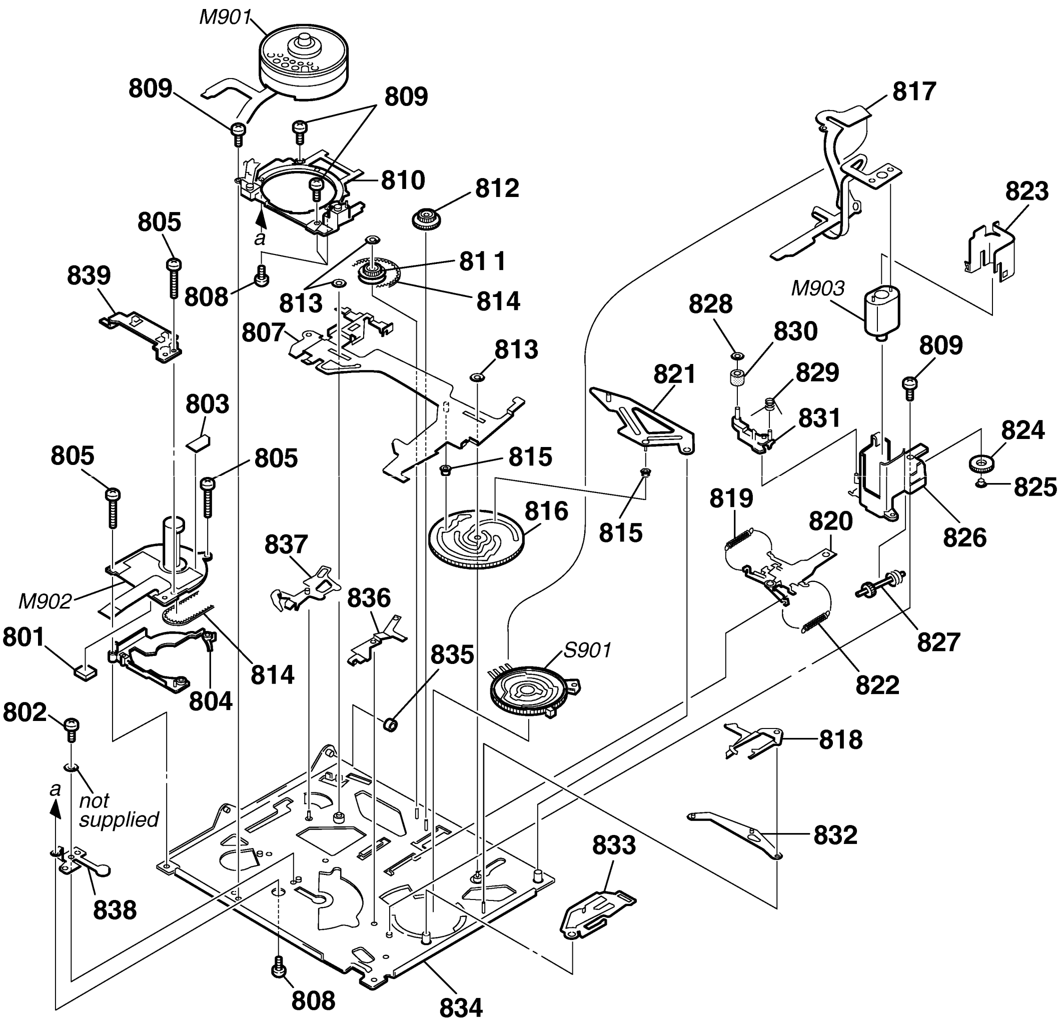
6-1-14. LS CHASSIS ASSEMBLY



762
772
771
S002
S001
773
778
779
780
761
760
775
777
781
A
774
782
D001
767
776
784
FP-249
(not supplied)
765
769
769
785
758
766
768
770
778
783
759
758
786
787
758
757
789
758
752
754
753
788
763
A
791
792
756
751
755
790
764

Ref. No.	Part No.	Description	Remark
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE	
752	A-7040-418-B	BASE (T) BLOCK ASSY, GUIDE	
753	3-965-559-01	STOPPER (T)	
754	3-965-557-01	STOPPER (T), GB	
755	3-965-558-01	STOPPER (S)	
756	3-965-556-01	STOPPER (S), GB	
757	3-965-553-01	RAIL, GUIDE	
758	3-947-503-01	SCREW (M1.4)	
759	3-965-573-01	RETAINER, TG4	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
761	3-965-552-01	HOLDER (T), SENSOR	
762	1-657-786-13	FP-221 FLEXIBLE BOARD	
763	3-965-551-01	HOLDER (S), SENSOR	
764	1-658-214-11	FP-356 FLEXIBLE BOARD	
765	A-7040-417-A	ARM BLOCK ASSY, TG4	
766	3-965-574-01	SPRING (RETURN, TG4), TORSION	
767	3-965-575-01	SPRING (PINCH), TORSION	
768	3-965-568-11	GUIDE, LOCK	
769	3-965-562-01	SPRING (RATCHET), TENSION	
770	3-965-581-03	RATCHET, T	
771	X-3949-380-1	ARM ASSY (E), PINCH	
772	X-3945-398-2	DECK ASSY, REEL,	
773	3-965-648-01	SPRING (PINCH), TENSION	
774	3-965-579-01	ROLLER, PINCH PRESS	
775	3-965-563-01	GEAR, T SOFT	
776	3-965-565-01	CLAW, T SOFT	
777	X-3945-397-1	DECK ASSY, REEL, S	
778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
779	3-945-756-01	SCREW (M1.4X3)	
780	3-965-583-01	ARM, RVS	
781	3-965-580-01	SPRING (ARM, RVS), TENSION	
782	3-966-384-01	SPRING, T SOFT	
783	3-965-578-01	SPRING, TENSION COIL	
784	3-965-560-01	RATCHET, S	
785	3-965-561-01	PLATE, RELEASE, S RATCHET	
786	X-3945-395-1	ARM ASSY, TG1	
787	3-965-576-01	SPRING (TG1), TENSION	
788	3-965-567-01	LID OPEN	
789	3-965-566-01	COVER, LS GUIDE	
* 790	3-965-577-01	PLATE, CAM, LS	
791	3-965-569-01	ARM, EJ	
792	A-7040-427-B	CHASSIS (S1) ASSY, LS	
D001	8-719-988-42	DIODE GL453	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	

6-1-15. MECHANISM CHASSIS ASSEMBLY


M901
809
809
817
810
812
823
805
a
811
839
808
813
814
M903
828
830
807
809
813
821
829
803
831
824
805
805
815
825
819
816
815
820
826
837
836
M902
801
835
S901
827
814
804
822
802
818
a
not supplied
833
832
838
808
834

Ref. No.	Part No.	Description	Remark
801	3-987-953-01	SPACER, RUBBER	
802	3-965-550-02	SCREW (M1.7X1.6)	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
804	3-054-404-01	SPACER, CAPSTAN	
805	3-965-549-01	SCREW (M1.4 X 6.5)	
807	3-971-644-02	SLIDER (2), M	
808	X-3947-895-1	SCREW ASSY, DRUM ATTACHED	
809	3-947-503-01	SCREW (M1.4)	
810	A-7040-494-A	BASE BLOCK ASSY, DRUM	
811	3-965-527-01	GEAR, CHANGE	
812	3-965-544-01	GEAR, RELAY	
813	3-331-007-21	WASHER	
814	3-965-546-01	BELT, TIMING	
815	3-965-533-01	ROLLER, LS	
816	3-965-528-01	GEAR, CAM	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
818	3-965-529-01	PLATE, REGULATOR, TENSION	
819	3-965-536-01	SPRING (LIMITER ARM T), COIL	
820	X-3945-388-1	SLIDER ASSY, GL	
821	3-965-532-21	ARM, LS	
822	3-965-535-01	SPRING (LIMITER ARM S), COIL	
823	3-965-542-01	SHIELD, MOTOR	
824	3-965-539-01	GEAR (A)	
825	3-965-538-01	SLEEVE, MOTOR HOLDER	
826	3-965-540-01	HOLDER, MOTOR	
827	3-965-541-01	SHAFT, WORM	
828	3-321-393-01	WASHER, STOPPER	
829	3-965-724-01	SPRING (RETURN, HC), TORSION	
830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
831	X-3945-407-1	ARM ASSY, HC ROLLER	
832	3-965-531-01	ARM, GL	
833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
834	X-3949-589-3	CHASSIS ASSY, MECHANICAL	
835	3-965-526-02	ROLLER, LS GUIDE	
836	3-965-547-01	ARM, HC DRIVING	
837	3-965-534-01	PLATE, PRESS, PINCH	
838	3-974-320-02	GROUND (IM), SHAFT	
839	3-966-349-01	HOLDER, FLEXIBLE	
M901	A-7048-938-A	DRUM BLOCK ASSY (DKH-02A-R)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
S901	1-762-436-15	SWITCH (ENCODER), ROTARY	

6-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service.
  Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. . uPA. . : μPA. .
  uPB. . : μPB. . uPC. . : μPC. .
  uPD. . : μPD. .
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- Abbreviation

AR : Argentine model
AUS : Australian model
CN : Chinese model
CND : Canadian model
EE : East European model
HK : Hong Kong model
JE : Tourist model
KR : Korea model
NE : North European model
RU : Russian model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiquens pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

About PD-117/118 board and LCD module, discriminate LCD type on the machine referring to page 9, and replace the same type.

Ref. No.	Part No.	Description	Remark
	A-7074-270-A	CD-242 BOARD, COMPLETE	(TRV320/TRV320P)
	A-7074-346-A	CD-266 BOARD, COMPLETE	(TRV520/TRV520P/TRV525)
	A-7074-380-A	CD-270 BOARD, COMPLETE (TRV720)	
		**********************************	
			(Ref. No.: 20, 000 Series)
			(IC001 is not included in this complete board)
		< CAPACITOR >	
C102	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C105	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C106	1-113-682-11	TANTAL. CHIP 33uF 20% 10V	
C108	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
		< CONNECTOR >	
CN101	1-766-346-21	CONNECTOR, FFC/FPC 16P	
		< IC >	
IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER)	
		< COIL >	
L102	1-469-528-91	INDUCTOR 100uH	
		< TRANSISTOR >	
Q101	8-729-117-73	TRANSISTOR 2SC4178-F13F14-T1	
		< RESISTOR >	
R101	1-216-864-11	METAL CHIP 0 5% 1/16W	
R102	1-216-864-11	METAL CHIP 0 5% 1/16W	
R103	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R105	1-216-857-11	METAL CHIP 1M 5% 1/16W	

Ref. No.	Part No.	Description	Remark
	A-7074-279-A	CD-244 BOARD, COMPLETE (TRV320E)	
	A-7074-376-A	CD-267 BOARD, COMPLETE	(TRV420E/TRV520E/TRV620E)
	A-7074-370-A	CD-271 BOARD, COMPLETE (TRV720E)	
		**********************************	
			(Ref. No.: 20, 000 Series)
			(IC151 is not included in this complete board)
		< CAPACITOR >	
C151	1-162-964-11	CERAMIC CHIP 0.001uF 10% 50V	
C152	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C155	1-113-682-11	TANTAL. CHIP 33uF 20% 10V	
C156	1-162-915-11	CERAMIC CHIP 10PF 0.5PF 50V	
C157	1-164-360-11	CERAMIC CHIP 0.1uF 16V	
C158	1-135-177-21	TANTALUM CHIP 1uF 20% 20V	
C159	1-127-820-91	CERAMIC 4.7uF 16V	
		< CONNECTOR >	
CN151	1-766-346-21	CONNECTOR, FFC/FPC 16P	
		< FERRITE BEAD >	
* FB001	1-500-282-11	INDUCTOR CHIP 0uH	
		< IC >	
IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER)	
IC152	8-759-561-46	IC AD8014ART-REEL7	
		< COIL >	
L151	1-469-528-91	INDUCTOR 100uH	
L152	1-469-528-91	INDUCTOR 100uH	
		< RESISTOR >	
R151	1-216-808-11	METAL CHIP 82 5% 1/16W	
R154	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R155	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R156	1-216-830-11	METAL CHIP 5.6K 5% 1/16W	
R157	1-216-864-11	METAL CHIP 0 5% 1/16W	

(Note) Be sure to read "Precautions for Replcement of CCD Imager" on page 4-8, 4-10 when changing the CCD imager

Ref. No.	Part No.	Description			Remark
	A-7074-327-A	CF-69 BOARD, COMPLETE			
					(TRV320/TRV320E: E, HK, AUS, CN/TRV320P)
	A-7074-350-A	CF-69 BOARD, COMPLETE			
					(TRV320E: AEP, UK, EE, NE, RU)
	************************************				
					(Ref. No.: 20, 000 Series)
		< BATTERY HOLDER >			
BH001	1-550-104-11	HOLDER, BATTERY			
		< CAPACITOR >			
C001	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C009	1-164-346-11	CERAMIC CHIP	1uF		16V
C010	1-164-346-11	CERAMIC CHIP	1uF		16V
					(TRV320E: AEP, UK, EE, NE, RU)
C011	1-164-346-11	CERAMIC CHIP	1uF		16V
					(TRV320E: AEP, UK, EE, NE, RU)
		< CONNECTOR >			
CN001	1-785-760-21	CONNECTOR, FFC/FPC (ZIF) 45P			
* CN002	1-785-379-01	HOUSING, CONNECTOR 4P			
CN003	1-778-506-21	PIN, CONNECTOR (PC BOARD) 2P			
CN004	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN005	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P			
					(TRV320E: AEP, UK, EE, NE, RU)
* CN007	1-778-283-11	CONNECTOR, FFC/FPC 4P			
					(TRV320/TRV320E: E, HK, AUS, CN/TRV320P)
* CN008	1-580-055-21	PIN, CONNECTOR (SMD) 2P			
		< DIODE >			
D001	8-719-062-16	DIODE 01ZA8.2 (TPL3)			
D005	8-719-069-59	DIODE UDZS-TE17-8.2B			
D006	8-719-069-59	DIODE UDZS-TE17-8.2B			
D008	8-719-027-76	DIODE 1SS357-TPH3			
D009	8-719-016-74	DIODE 1SS352-TPH3			
		< COIL >			
L001	1-469-525-91	INDUCTOR	10uH		
					(TRV320E: AEP, UK, EE, NE, RU)
L002	1-469-525-91	INDUCTOR	10uH		
					(TRV320E: AEP, UK, EE, NE, RU)
L003	1-469-525-91	INDUCTOR	10uH		
					(TRV320E: AEP, UK, EE, NE, RU)
		< TRANSISTOR >			
Q002	8-729-230-63	TRANSISTOR 2SC4116YG-TE85L			
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL			
		< RESISTOR >			
R001	1-216-833-91	RES-CHIP	10K	5%	1/16W
R002	1-216-833-91	RES-CHIP	10K	5%	1/16W
R003	1-216-833-91	RES-CHIP	10K	5%	1/16W
R004	1-216-833-91	RES-CHIP	10K	5%	1/16W
R005	1-216-833-91	RES-CHIP	10K	5%	1/16W
R006	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R007	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R008	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R009	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R010	1-216-814-11	METAL CHIP	270	5%	1/16W
R011	1-216-864-11	METAL CHIP	0	5%	1/16W
R012	1-216-845-11	METAL CHIP	100K	5%	1/16W
R013	1-216-803-11	METAL CHIP	33	5%	1/16W
R014	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R015	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R016	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R017	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R019	1-216-816-11	METAL CHIP	390	5%	1/16W
R020	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R021	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R022	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R023	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R024	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R025	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R026	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R027	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R029	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU)
R030	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R031	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R032	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R038	1-216-838-11	METAL CHIP	27K	5%	1/16W
R039	1-216-838-11	METAL CHIP	27K	5%	1/16W
R040	1-216-838-11	METAL CHIP	27K	5%	1/16W
R043	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU)
R044	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU)
R045	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU)
R048	1-216-864-11	METAL CHIP	0	5%	1/16W
R051	1-216-864-11	METAL CHIP	0	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU)
R052	1-216-864-11	METAL CHIP	0	5%	1/16W
R053	1-216-864-11	METAL CHIP	0	5%	1/16W
R054	1-216-814-11	METAL CHIP	270	5%	1/16W
		< SWITCH >			
S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)			
S002	1-771-138-61	SWITCH, KEY BOARD (+)			
S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)			
S004	1-771-138-61	SWITCH, KEY BOARD (–)			
S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)			
S006	1-771-025-41	SWITCH, ROTARY (ENCODER)			
					(SEL/PUSH EXEC)
S007	1-771-138-61	SWITCH, KEY BOARD (MENU)			
S008	1-771-138-61	SWITCH, KEY BOARD (INDEX)			
S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)			
S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)			
S011	1-771-138-61	SWITCH, KEY BOARD (DELETE)			
S012	1-771-138-61	SWITCH, KEY BOARD (⏲)			
S013	1-771-029-21	SWITCH, TACTILE (EXPOSURE)			
S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)			
S015	1-771-138-61	SWITCH, KEY BOARD (PLAY)			
S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)			
S017	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)			
S018	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)			
S019	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)			
S020	1-771-029-31	SWITCH, TACTILE (FADER)			

CF-70

Ref. No.	Part No.	Description	Remark
	A-7074-344-A	CF-70 BOARD, COMPLETE	(TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
	A-7074-373-A	CF-70 BOARD, COMPLETE	(TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
	**********************************		(Ref. No.: 30, 000 Series)
		< BATTERY HOLDER >	
BH001	1-550-104-11	HOLDER, BATTERY	
		< CAPACITOR >	
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C009	1-164-346-11	CERAMIC CHIP 1uF	16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
C010	1-164-346-11	CERAMIC CHIP 1uF	16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
C011	1-164-346-11	CERAMIC CHIP 1uF	16V (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
		< CONNECTOR >	
CN001	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P	
* CN002	1-778-283-11	CONNECTOR, FFC/FPC 4P	
CN003	1-794-057-21	PIN, CONNECTOR (PC BOARD) 2P	
CN004	1-794-060-21	PIN, CONNECTOR (PC BOARD) 12P	
CN005	1-794-058-21	PIN, CONNECTOR (PC BOARD) 6P	
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P	(TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
* CN007	1-778-283-11	CONNECTOR, FFC/FPC 4P	(TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
* CN008	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
		< DIODE >	
D001	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D002	8-719-069-59	DIODE UDZS-TE17-8.2B	
D005	8-719-069-59	DIODE UDZS-TE17-8.2B	
D006	8-719-069-59	DIODE UDZS-TE17-8.2B	
D008	8-719-027-76	DIODE 1SS357-TPH3	
D009	8-719-016-74	DIODE 1SS352-TPH3	
		< COIL >	
L001	1-469-525-91	INDUCTOR 10uH	(TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
L002	1-469-525-91	INDUCTOR 10uH	(TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
L003	1-469-525-91	INDUCTOR 10uH	(TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
		< TRANSISTOR >	
Q002	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
		< RESISTOR >	
R001	1-216-833-91	RES-CHIP 10K 5%	1/16W
R002	1-216-833-91	RES-CHIP 10K 5%	1/16W
R003	1-216-833-91	RES-CHIP 10K 5%	1/16W
R004	1-216-833-91	RES-CHIP 10K 5%	1/16W
R005	1-216-833-91	RES-CHIP 10K 5%	1/16W
R006	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R007	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R008	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R009	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R010	1-216-864-11	METAL CHIP 0 5%	1/16W
R011	1-216-814-11	METAL CHIP 270 5%	1/16W
R012	1-216-845-11	METAL CHIP 100K 5%	1/16W
R013	1-216-803-11	METAL CHIP 33 5%	1/16W
R014	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R015	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R016	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R017	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R019	1-216-816-11	METAL CHIP 390 5%	1/16W
R020	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R021	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R022	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R023	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R024	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R025	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R026	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R027	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R029	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
R030	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R031	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R033	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R040	1-216-838-11	METAL CHIP 27K 5%	1/16W
R041	1-216-838-11	METAL CHIP 27K 5%	1/16W
R042	1-216-838-11	METAL CHIP 27K 5%	1/16W
R045	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
R046	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
R047	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
R050	1-216-864-11	METAL CHIP 0 5%	1/16W
R051	1-216-864-11	METAL CHIP 0 5%	1/16W (TRV420E: AEP/TRV520E: AEP/TRV525/ TRV620E)
R052	1-216-864-11	METAL CHIP 0 5%	1/16W
R053	1-216-864-11	METAL CHIP 0 5%	1/16W
R054	1-216-814-11	METAL CHIP 270 5%	1/16W
		< SWITCH >	
S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)	
S002	1-771-138-61	SWITCH, KEY BOARD (+)	
S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)	
S004	1-771-138-61	SWITCH, KEY BOARD (–)	
S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)	
S006	1-771-025-41	SWITCH, ROTARY (ENCODER) (SEL/PUSH EXEC)	
S007	1-771-138-61	SWITCH, KEY BOARD (MENU)	
S008	1-771-138-61	SWITCH, KEY BOARD (INDEX)	
S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)	

Ref. No.	Part No.	Description	Remark
S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)	
S011	1-771-138-61	SWITCH, KEY BOARD (DELETE)	
S012	1-771-138-61	SWITCH, KEY BOARD (⏲)	
S013	1-771-029-21	SWITCH, TACTILE (EXPOSURE)	
S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)	
S015	1-771-138-61	SWITCH, KEY BOARD (PLAY)	
S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)	
S017	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)	
S019	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)	
S020	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)	
S021	1-771-029-31	SWITCH, TACTILE (FADER)	

A-7074-378-A CF-72 BOARD, COMPLETE (TRV720/TRV720E)
****

(Ref. No.: 10, 000 Series)

Ref. No.	Part No.	Description	Remark
		< BATTERY HOLDER >	
BH001	1-550-104-11	HOLDER, BATTERY	
		< CAPACITOR >	
C001	1-162-970-11	CERAMIC CHIP 0.01uF 10%	25V
C008	1-164-346-11	CERAMIC CHIP 1uF	16V
C009	1-164-346-11	CERAMIC CHIP 1uF	16V
C010	1-164-346-11	CERAMIC CHIP 1uF	16V
		< CONNECTOR >	
CN001	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P	
CN002	1-778-283-11	CONNECTOR, FFC/FPC 4P	
CN003	1-794-057-21	PIN, CONNECTOR (PC BOARD) 2P	
CN004	1-794-060-21	PIN, CONNECTOR (PC BOARD) 12P	
CN005	1-794-058-21	PIN, CONNECTOR (PC BOARD) 6P	
CN006	1-779-334-11	CONNECTOR, FFC/FPC 20P	
* CN008	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
CN009	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
		< DIODE >	
D001	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D002	8-719-069-59	DIODE UDZS-TE17-8.2B	
D005	8-719-069-59	DIODE UDZS-TE17-8.2B	
D006	8-719-069-59	DIODE UDZS-TE17-8.2B	
D008	8-719-421-27	DIODE MA728- (K8) .S0	
D009	8-719-016-74	DIODE 1SS352-TPH3	
		< COIL >	
L001	1-469-525-91	INDUCTOR 10uH	
L002	1-469-525-91	INDUCTOR 10uH	
L003	1-469-525-91	INDUCTOR 10uH	
		< TRANSISTOR >	
Q002	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX	
Q003	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
Q007	8-729-045-86	TRANSISTOR RN2107F (TPL3)	
		< RESISTOR >	
R001	1-216-833-91	RES-CHIP 10K 5%	1/16W
R002	1-216-833-91	RES-CHIP 10K 5%	1/16W
R003	1-216-833-91	RES-CHIP 10K 5%	1/16W
R004	1-216-833-91	RES-CHIP 10K 5%	1/16W
R005	1-216-833-91	RES-CHIP 10K 5%	1/16W
R006	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R007	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R008	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R009	1-216-822-11	METAL CHIP 1.2K 5%	1/16W
R010	1-216-864-11	METAL CHIP 0 5%	1/16W
R011	1-216-814-11	METAL CHIP 270 5%	1/16W
R012	1-216-845-11	METAL CHIP 100K 5%	1/16W
R013	1-216-803-11	METAL CHIP 33 5%	1/16W
R014	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R015	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R016	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R017	1-216-823-11	METAL CHIP 1.5K 5%	1/16W
R019	1-216-816-11	METAL CHIP 390 5%	1/16W
R020	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R021	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R022	1-216-825-11	METAL CHIP 2.2K 5%	1/16W
R024	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R025	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R026	1-216-828-11	METAL CHIP 3.9K 5%	1/16W
R029	1-216-864-11	METAL CHIP 0 5%	1/16W
R030	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R031	1-216-832-11	METAL CHIP 8.2K 5%	1/16W
R040	1-216-835-11	METAL CHIP 15K 5%	1/16W
R041	1-216-838-11	METAL CHIP 27K 5%	1/16W
R045	1-216-864-11	METAL CHIP 0 5%	1/16W
R046	1-216-864-11	METAL CHIP 0 5%	1/16W
R047	1-216-864-11	METAL CHIP 0 5%	1/16W
R050	1-216-864-11	METAL CHIP 0 5%	1/16W
R051	1-216-864-11	METAL CHIP 0 5%	1/16W
R052	1-216-864-11	METAL CHIP 0 5%	1/16W
R053	1-216-864-11	METAL CHIP 0 5%	1/16W
R054	1-216-814-11	METAL CHIP 270 5%	1/16W
		< SWITCH >	
S001	1-771-138-61	SWITCH, KEY BOARD (DIGITAL EFFECT)	
S002	1-771-138-61	SWITCH, KEY BOARD (MEMORY +)	
S003	1-771-138-61	SWITCH, KEY BOARD (PICTURE EFFECT)	
S004	1-771-138-61	SWITCH, KEY BOARD (MEMORY –)	
S005	1-771-138-61	SWITCH, KEY BOARD (DATA CODE)	
S007	1-771-138-61	SWITCH, KEY BOARD (MENU)	
S008	1-771-138-61	SWITCH, KEY BOARD (MEMORY INDEX)	
S009	1-771-138-61	SWITCH, KEY BOARD (END SEARCH)	
S010	1-771-138-61	SWITCH, KEY BOARD (TITLE)	
S011	1-771-138-61	SWITCH, KEY BOARD (MEMORY DELETE)	
S012	1-771-138-61	SWITCH, KEY BOARD (⏲)	
S014	1-771-138-61	SWITCH, KEY BOARD (PB ZOOM)	
S015	1-771-138-61	SWITCH, KEY BOARD (MEMORY PLAY)	
S016	1-771-138-61	SWITCH, KEY BOARD (DISPLAY)	
S019	1-771-138-61	SWITCH, KEY BOARD (MEMORY MIX)	

FP-249 BOARD, COMPLETE (Not Supplied)
****

(Ref. No.: 10, 000 Series)

Ref. No.	Part No.	Description	Remark
	1-658-214-11	FP-356 FLEXIBLE BOARD	
	3-965-551-01	HOLDER (S), SENSOR	
	3-965-552-01	HOLDER (T), SENSOR	
		< HOLE ELEMENT >	
H001	8-719-061-28	DIODE HW-105C-FT-V (S REEL SENSOR)	
H002	8-719-061-28	DIODE HW-105C-FT-V (T REEL SENSOR)	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q001	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE END)	
Q002	8-729-907-25	PHOTO TRANSISTOR PT4850F (TAPE TOP)	
		< SWITCH >	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	

Ref. No.	Part No.	Description	Remark
	1-658-213-11	FP-355 FLEXIBLE BOARD ******************** (Ref. No.: 10, 000 Series)	
		< DIODE >	
D001	8-719-988-42	DIODE GL453	

Ref. No.	Part No.	Description	Remark
	A-7074-271-A	FU-138 BOARD, COMPLETE (TRV320/TRV320E/TRV320P)	
	A-7074-347-A	FU-142 BOARD, COMPLETE (TRV420E/TRV520/TRV520E/ TRV520P/TRV525/TRV620E)	
	A-7074-381-A	FU-144 BOARD, COMPLETE (TRV720/TRV720E)	
		*********************************** (Ref. No.: 10, 000 Series)	
		< CAPACITOR >	
C251	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C252	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C253	1-164-227-11	CERAMIC CHIP 0.022uF 10% 25V	
C255	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C256	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C257	1-119-751-11	TANTAL. CHIP 22uF 20% 16V	
C261	1-109-982-11	CERAMIC CHIP 1uF 10% 10V	
		< CONNECTOR >	
* CN252	1-580-756-21	PIN, CONNECTOR (SMD) 7P	
CN253	1-691-485-21	CONNECTOR, FFC/FPC 6P	
CN254	1-794-174-21	CONNECTOR BOARD TO BOARD 42P	
		< DIODE >	
D251	8-719-069-59	DIODE UDZS-TE17-8.2B	
D252	8-719-027-76	DIODE 1SS357-TPH3	
D253	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D256	8-719-027-76	DIODE 1SS357-TPH3	
D257	8-719-016-74	DIODE 1SS352-TPH3	
D560	8-719-016-74	DIODE 1SS352-TPH3	
		< FUSE >	
⚠F251	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
⚠F252	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
⚠F254	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
⚠F256	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
⚠F257	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
⚠F258	1-576-406-21	FUSE, MICRO (1608) (1.4A/32V)	
		< COIL >	
L251	1-412-056-11	INDUCTOR CHIP 4.7uH	
		< TRANSISTOR >	
Q251	8-729-047-68	TRANSISTOR SSM3K03FE (TPL3)	
Q252	8-729-051-49	TRANSISTOR TPC8305 (TE12L)	
Q253	8-729-804-41	TRANSISTOR 2SB1122-ST-TD	
Q254	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q255	8-729-047-68	TRANSISTOR SSM3K03FE (TPL3)	
Q256	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q257	8-729-042-56	TRANSISTOR MGSF3455VT1	
		< RESISTOR >	
R251	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R252	1-216-296-91	SHORT 0	
R253	1-216-296-91	SHORT 0	
R254	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R255	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R256	1-216-150-91	RES-CHIP 10 5% 1/8W	
R257	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R258	1-216-831-11	METAL CHIP 6.8K 5% 1/16W	
R259	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R260	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R261	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R263	1-216-821-11	METAL CHIP 1K 5% 1/16W	

Ref. No.	Part No.	Description	Remark
	A-7074-382-A	KP-009 BOARD, COMPLETE (TRV720/TRV720E) *********************************** (Ref. No.: 20, 000 Series)	
		< CONNECTOR >	
CN301	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P	
		< RESISTOR >	
R301	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R302	1-216-832-11	METAL CHIP 8.2K 5% 1/16W	
R303	1-216-828-11	METAL CHIP 3.9K 5% 1/16W	
R304	1-216-825-11	METAL CHIP 2.2K 5% 1/16W	
		< SWITCH >	
S301	1-771-029-31	SWITCH, TACTILE (FADER)	
S302	1-771-029-21	SWITCH, TACTILE (BACK LIGHT)	
S303	1-771-029-21	SWITCH, TACTILE (PROGRAM AE)	
S304	1-771-029-21	SWITCH, TACTILE (EXPOSURE)	
S305	1-771-025-41	SWITCH, ROTARY (ENCODER) (SEL/PUSH EXEC)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
	A-7074-192-A	LB-62 BOARD, COMPLETE	
			(TRV525/TRV620E/TRV720/TRV720E)
	A-7074-351-A	LB-62 BOARD, COMPLETE	
			(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
	***********************************		
			(Ref. No.: 20, 000 Series)
		< CAPACITOR >	
C4601	1-113-682-11	TANTAL. CHIP 33uF 20% 10V	
C4602	1-127-760-91	CERAMIC CHIP 4.7uF 10% 6.3V	
C4603	1-115-464-91	CERAMIC CHIP 0.0022uF 10% 630V	
C4604	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
		< CONNECTOR >	
CN4601	1-764-516-21	CONNECTOR, FFC/FPC (ZIF) 6P	
		< DIODE >	
D4602	8-719-026-34	DIODE CL-170UR-CD-T (TALLY)	
			(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
		< IC >	
IC4601	8-759-485-79	IC TC7SET08FU (TE85R)	
		< COIL >	
L4601	1-412-031-11	INDUCTOR CHIP 47uH	
L4602	1-469-525-91	INDUCTOR 10uH	
		< FLUORESCENT INDICATOR >	
⚠ND4601	1-517-933-21	FLUORESCENT TUBE (0.44)	
			(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
⚠ND4601	1-517-933-11	FLUORESCENT TUBE (0.44)	
			(TRV525/TRV620E/TRV720/TRV720E)
		< TRANSISTOR >	
Q4601	8-729-039-24	TRANSISTOR FX216-TL1	
		< RESISTOR >	
R4601	1-216-808-11	METAL CHIP 82 5% 1/16W	
R4603	1-216-821-11	METAL CHIP 1K 5% 1/16W	
			(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
R4604	1-216-853-11	METAL CHIP 470K 5% 1/16W	
		< TRANSFORMER >	
⚠T4601	1-435-225-21	TRANSFORMER, INVERTER	

Ref. No.	Part No.	Description	Remark
	A-7074-421-A	MI-37 BOARD, COMPLETE	
			(TRV320E/TRV420E/TRV520E/ TRV620E/TRV720E)
	A-7074-267-A	MI-37 BOARD, COMPLETE	
			(TRV320/TRV320P/TRV520/ TRV520P/TRV525/TRV720)
	***********************************		
			(Ref. No.: 10, 000 Series)
		< CAPACITOR >	
C3900	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C3901	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
			(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
C3902	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
			(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
C3903	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
			(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
C3904	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3905	1-117-863-11	CERAMIC CHIP 0.47uF 10% 6.3V	
C3906	1-117-863-11	CERAMIC CHIP 0.47uF 10% 6.3V	
C3907	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C3908	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C3909	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3910	1-119-660-11	TANTAL. CHIP 4.7uF 20% 6.3V	
C3911	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3912	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3913	1-164-668-11	CERAMIC CHIP 510PF 5% 50V	
C3914	1-135-259-11	TANTAL. CHIP 10uF 20% 6.3V	
C3915	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3916	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C3917	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C3918	1-164-844-11	CERAMIC CHIP 4PF 0.25PF 16V	
C3919	1-117-863-11	CERAMIC CHIP 0.47uF 10% 6.3V	
C3920	1-117-863-11	CERAMIC CHIP 0.47uF 10% 6.3V	
C3921	1-164-862-11	CERAMIC CHIP 33PF 5% 16V	
C3922	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C3923	1-164-864-11	CERAMIC CHIP 39PF 5% 16V	
C3924	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C3925	1-107-826-91	CERAMIC CHIP 0.1uF 10% 16V	
C3926	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3927	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3928	1-104-847-11	TANTAL. CHIP 22uF 20% 4V	
C3929	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3931	1-125-777-11	CERAMIC CHIP 0.1uF 10% 10V	
C3933	1-107-686-11	TANTAL. CHIP 4.7uF 20% 16V	
C3934	1-125-837-91	CERAMIC CHIP 1uF 10% 6.3V	
C3935	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C3936	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C5806	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C5807	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C5808	1-107-819-11	CERAMIC CHIP 0.022uF 10% 16V	
C5809	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C5810	1-164-943-11	CERAMIC CHIP 0.01uF 10% 16V	
C5812	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	
C5813	1-164-874-11	CERAMIC CHIP 100PF 5% 16V	
C5814	1-164-937-11	CERAMIC CHIP 0.001uF 10% 16V	
C5815	1-135-201-11	TANTALUM CHIP 10uF 20% 4V	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MI-37

Ref. No.	Part No.	Description	Remark
C5816	1-164-874-11	CERAMIC CHIP 100PF 5%	16V
C5817	1-164-937-11	CERAMIC CHIP 0.001uF 10%	16V
C5818	1-107-819-11	CERAMIC CHIP 0.022uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	16V
C5819	1-164-874-11	CERAMIC CHIP 100PF 5%	16V
C5820	1-164-874-11	CERAMIC CHIP 100PF 5%	16V
C5821	1-107-819-11	CERAMIC CHIP 0.022uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	16V
C5822	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C5823	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C5824	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C5825	1-125-777-11	CERAMIC CHIP 0.1uF 10%	10V
C5826	1-110-563-11	CERAMIC CHIP 0.068uF 10%	16V
C5827	1-110-563-11	CERAMIC CHIP 0.068uF 10%	16V
C5829	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C5830	1-164-227-11	CERAMIC CHIP 0.022uF 10%	25V
C5832	1-164-245-11	CERAMIC CHIP 0.015uF 10%	25V
C5833	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C5835	1-164-941-11	CERAMIC CHIP 0.0047uF 10%	16V
C5836	1-164-245-11	CERAMIC CHIP 0.015uF 10%	25V
C5838	1-125-777-11	CERAMIC CHIP 0.1uF 10% (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	10V
C5839	1-104-847-11	TANTAL. CHIP 22uF 20%	4V
C5840	1-165-128-11	CERAMIC CHIP 0.22uF	16V
C5841	1-125-837-91	CERAMIC CHIP 1uF 10% (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	6.3V
C5841	1-164-227-11	CERAMIC CHIP 0.022uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	25V
C5842	1-125-837-91	CERAMIC CHIP 1uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	6.3V
C5843	1-125-837-91	CERAMIC CHIP 1uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	6.3V
C5844	1-125-837-91	CERAMIC CHIP 1uF 10% (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	6.3V
		< CONNECTOR >	
CN5801	1-766-344-21	CONNECTOR, FFC/FPC 14P	
* CN5802	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
* CN5803	1-695-320-21	PIN, CONNECTOR (1.5mm) (SMD) 2P	
CN5804	1-794-053-21	CONNECTOR, FFC/FPC (LIF) 32P	
		< DIODE >	
D3900	8-719-073-01	DIODE MA111- (K8) .S0	
D3901	8-719-074-30	DIODE SML-310LTT86 (TALLY)	
D3903	8-719-060-65	DIODE DAC3825 (LASER AV LINK)	
D3904	8-719-078-23	DIODE DCR2815 (LASER AV LINK)	
D5806	8-719-062-16	DIODE 01ZA8.2 (TPL3)	
D5807	8-719-069-59	DIODE UDZS-TE17-8.2B	
		< FUSE >	
⚠F3900	1-533-874-11	FUSE, MICRO (200mA/24V)	

Ref. No.	Part No.	Description	Remark
		< IC >	
IC3900	8-749-012-83	IC PNA4S13M01S0	
IC3901	8-759-498-52	IC LA9511W-TBM (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
IC3901	8-759-566-96	IC AN2920FHQ-EB (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	
IC5801	8-759-638-50	IC AN2901FHQ-EB (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
IC5801	8-759-679-11	IC BH7870AKV-E2 (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	
		< COIL >	
L3900	1-469-525-91	INDUCTOR 10uH	
L3901	1-469-525-91	INDUCTOR 10uH	
L3902	1-412-948-11	INDUCTOR 5.6uH	
L3903	1-412-957-11	INDUCTOR 33uH	
L3904	1-412-957-11	INDUCTOR 33uH	
L5803	1-412-961-11	INDUCTOR 68uH	
		< TRANSISTOR >	
Q3901	8-729-140-75	TRANSISTOR 2SD999-T1-CLCK	
Q3902	8-729-122-63	TRANSISTOR 2SA1226-T1E4	
Q3903	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
		< RESISTOR >	
R3900	1-218-990-11	SHORT 0	
R3901	1-218-951-11	RES-CHIP 680 5%	1/16W
R3902	1-216-001-00	METAL CHIP 10 5%	1/10W
R3903	1-218-968-11	RES-CHIP 18K 5%	1/16W
R3904	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R3905	1-218-961-11	RES-CHIP 4.7K 5%	1/16W
R3906	1-216-800-11	RES-CHIP 18 5%	1/16W
R3908	1-218-967-11	RES-CHIP 15K 5%	1/16W
R3909	1-218-989-11	RES-CHIP 1M 5%	1/16W
R3910	1-218-990-11	SHORT 0	
R3911	1-208-715-11	METAL CHIP 22K 0.5%	1/16W
R3912	1-218-947-11	RES-CHIP 330 5%	1/16W
R3913	1-218-953-11	RES-CHIP 1K 5%	1/16W
R3916	1-218-949-11	RES-CHIP 470 5%	1/16W
R3917	1-218-979-11	RES-CHIP 150K 5%	1/16W
R3918	1-218-979-11	RES-CHIP 150K 5%	1/16W
R3919	1-218-950-11	RES-CHIP 560 5%	1/16W
R3920	1-218-963-11	RES-CHIP 6.8K 5%	1/16W
R3921	1-218-949-11	RES-CHIP 470 5%	1/16W
R3922	1-218-972-11	RES-CHIP 39K 5%	1/16W
R3923	1-218-949-11	RES-CHIP 470 5%	1/16W
R3924	1-218-949-11	RES-CHIP 470 5%	1/16W
R3936	1-218-955-11	RES-CHIP 1.5K 5%	1/16W
R3938	1-218-990-11	SHORT 0	
R3939	1-218-990-11	SHORT 0	
R5801	1-218-971-11	RES-CHIP 33K 5%	1/16W
R5802	1-218-968-11	RES-CHIP 18K 5%	1/16W
R5803	1-218-957-11	RES-CHIP 2.2K 5%	1/16W
R5804	1-216-864-11	METAL CHIP 0 5%	1/16W
R5805	1-218-961-11	RES-CHIP 4.7K 5%	1/16W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R5806	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5807	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5809	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5814	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5815	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5816	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5817	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R5818	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R5819	1-218-966-11	RES-CHIP	12K	5%	1/16W
R5820	1-218-969-11	RES-CHIP	22K	5%	1/16W
R5821	1-218-966-11	RES-CHIP	12K	5%	1/16W
R5822	1-218-969-11	RES-CHIP	22K	5%	1/16W
R5823	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5824	1-218-990-11	SHORT	0		
R5825	1-218-990-11	SHORT	0		
R5826	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R5827	1-218-968-11	RES-CHIP	18K	5%	1/16W
R5828	1-218-968-11	RES-CHIP	18K	5%	1/16W
R5829	1-218-971-11	RES-CHIP	33K	5%	1/16W
R5830	1-218-977-11	RES-CHIP	100K	5%	1/16W
		(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)			
R5831	1-218-990-11	SHORT	0		
		(TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)			
R5831	1-218-969-11	RES-CHIP	22K	5%	1/16W
		(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)			
R5834	1-218-965-11	RES-CHIP	10K	5%	1/16W
		(TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)			
R5834	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
		(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)			
R5835	1-218-990-11	SHORT	0		
R5836	1-218-990-11	SHORT	0		
R5837	1-218-990-11	SHORT	0		
R5840	1-218-990-11	SHORT	0		
R5841	1-218-990-11	SHORT	0		
R5845	1-218-947-11	RES-CHIP	330	5%	1/16W
R5846	1-218-990-11	SHORT	0		
		(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)			
R5847	1-218-990-11	SHORT	0		
		(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)			
		< VARISTOR >			
VDR801	1-801-862-11	VARISTOR, CHIP			
VDR803	1-801-862-11	VARISTOR, CHIP			
	A-7074-328-A	PC-77 BOARD, COMPLETE **********************			
		(Ref. No.: 30, 000 Series)			
		< CAPACITOR >			
C101	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C102	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C104	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C105	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C106	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C108	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C109	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C110	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C111	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C112	1-164-846-11	CERAMIC CHIP	6PF	0.50PF	16V
C113	1-164-847-11	CERAMIC CHIP	7PF	0.50PF	16V
C114	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C115	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C116	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C117	1-801-862-11	VARISTOR, CHIP (Note)			
C118	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C119	1-801-862-11	VARISTOR, CHIP (Note)			
C120	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C121	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C122	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C123	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C125	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C126	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C127	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C128	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C129	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C130	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C131	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C132	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C133	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C134	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C135	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C136	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C137	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C138	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C140	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C141	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C142	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C143	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C144	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C145	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C146	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C147	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C148	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C150	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C151	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C154	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C155	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C156	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C157	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C158	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C159	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C701	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C702	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C703	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C704	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C705	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C706	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C707	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C708	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V

Note: Varistors are mounted to the location where C117, 119 are printed

Ref. No.	Part No.	Description			Remark
C710	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C711	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C712	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C713	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C714	1-110-563-11	CERAMIC CHIP	0.068uF	10%	16V
C715	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C717	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C718	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C720	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C721	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C722	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C727	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C728	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C801	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
CN801	1-573-350-11	CONNECTOR, FFC/FPC 10P			
CN802	1-774-603-21	CONNECTOR, BOARD TO BOARD 100P			
		< DIODE >			
D101	8-719-016-74	DIODE 1SS352-TPH3			
D102	8-719-069-59	DIODE UDZS-TE17-8.2B			
D103	8-719-069-59	DIODE UDZS-TE17-8.2B			
D104	8-719-069-59	DIODE UDZS-TE17-8.2B			
		< FERRITE BEAD >			
FB101	1-414-813-11	FERRITE	0uH		
FB102	1-414-813-11	FERRITE	0uH		
FB103	1-414-813-11	FERRITE	0uH		
FB104	1-414-813-11	FERRITE	0uH		
FB105	1-414-813-11	FERRITE	0uH		
FB106	1-414-813-11	FERRITE	0uH		
FB107	1-414-813-11	FERRITE	0uH		
FB801	1-500-282-11	INDUCTOR CHIP	0uH		
		< IC >			
IC103	8-759-234-20	IC TC7S08F (TE85R)			
IC104	8-759-495-15	IC uPD4721GS-GJG-E2			
IC105	8-759-668-50	IC HD6417197F77			
IC107	8-759-656-23	IC MB81F161622C-80FN			
IC108	8-759-657-96	IC MB87J1802PFF-G-BND-ER			
IC109	8-759-682-51	IC MBM29LV400BC-90PFTN-S108-ER			
IC701	8-759-492-30	IC MB3817PFV-G-BND			
IC702	8-759-492-30	IC MB3817PFV-G-BND			
		< COIL >			
L101	1-216-295-91	SHORT	0		
L102	1-469-525-91	INDUCTOR	10uH		
L701	1-412-056-11	INDUCTOR	4.7uH		
L702	1-416-345-11	INDUCTOR	22uH		
L703	1-412-056-11	INDUCTOR	4.7uH		
L704	1-412-056-11	INDUCTOR	4.7uH		
L705	1-416-345-11	INDUCTOR	22uH		
L706	1-412-056-11	INDUCTOR	4.7uH		
		< TRANSISTOR >			
Q101	8-729-042-29	TRANSISTOR RN1104F (TPL3)			
Q102	8-729-037-61	TRANSISTOR RN2104F (TPL3)			
Q103	8-729-042-29	TRANSISTOR RN1104F (TPL3)			
Q104	8-729-042-29	TRANSISTOR RN1104F (TPL3)			

Ref. No.	Part No.	Description			Remark
Q105	8-729-045-75	TRANSISTOR RN1107F (TPL3)			
Q106	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)			
Q701	8-729-046-98	TRANSISTOR CPH6702-TL			
Q702	8-729-046-98	TRANSISTOR CPH6702-TL			
		< RESISTOR >			
R102	1-218-973-11	RES-CHIP	47K	5%	1/16W
R103	1-218-990-11	SHORT	0		
R104	1-218-953-11	RES-CHIP	1K	5%	1/16W
R105	1-218-990-11	SHORT	0		
R106	1-218-977-11	RES-CHIP	100K	5%	1/16W
R107	1-216-864-11	METAL CHIP	0	5%	1/16W
R108	1-218-973-11	RES-CHIP	47K	5%	1/16W
R109	1-218-977-11	RES-CHIP	100K	5%	1/16W
R110	1-218-989-11	RES-CHIP	1M	5%	1/16W
R111	1-218-990-11	SHORT	0		
R112	1-218-977-11	RES-CHIP	100K	5%	1/16W
R113	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R114	1-216-864-11	METAL CHIP	0	5%	1/16W
R117	1-216-864-11	METAL CHIP	0	5%	1/16W
R118	1-218-990-11	SHORT	0		
R119	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R120	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R121	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R122	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R123	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R124	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R125	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R126	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R128	1-218-977-11	RES-CHIP	100K	5%	1/16W
R129	1-218-953-11	RES-CHIP	1K	5%	1/16W
R130	1-218-973-11	RES-CHIP	47K	5%	1/16W
R131	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R133	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R134	1-218-953-11	RES-CHIP	1K	5%	1/16W
R135	1-218-977-11	RES-CHIP	100K	5%	1/16W
R136	1-218-977-11	RES-CHIP	100K	5%	1/16W
R137	1-218-977-11	RES-CHIP	100K	5%	1/16W
R138	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R139	1-218-977-11	RES-CHIP	100K	5%	1/16W
R140	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R141	1-218-977-11	RES-CHIP	100K	5%	1/16W
R142	1-218-977-11	RES-CHIP	100K	5%	1/16W
R143	1-218-977-11	RES-CHIP	100K	5%	1/16W
R144	1-218-977-11	RES-CHIP	100K	5%	1/16W
R145	1-218-977-11	RES-CHIP	100K	5%	1/16W
R146	1-218-977-11	RES-CHIP	100K	5%	1/16W
R147	1-218-977-11	RES-CHIP	100K	5%	1/16W
R148	1-218-977-11	RES-CHIP	100K	5%	1/16W
R149	1-218-977-11	RES-CHIP	100K	5%	1/16W
R150	1-218-977-11	RES-CHIP	100K	5%	1/16W
R151	1-218-977-11	RES-CHIP	100K	5%	1/16W
R154	1-218-990-11	SHORT	0		
R156	1-218-977-11	RES-CHIP	100K	5%	1/16W
R157	1-218-977-11	RES-CHIP	100K	5%	1/16W
R158	1-218-977-11	RES-CHIP	100K	5%	1/16W
R159	1-218-990-11	SHORT	0		
R160	1-218-990-11	SHORT	0		
R162	1-218-990-11	SHORT	0		
R163	1-218-959-11	RES-CHIP	3.3K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R164	1-218-990-11	SHORT	0		
R165	1-218-990-11	SHORT	0		
R166	1-218-990-11	SHORT	0		
R167	1-218-977-11	RES-CHIP	100K	5%	1/16W
R168	1-218-990-11	SHORT	0		
R170	1-218-953-11	RES-CHIP	1K	5%	1/16W
R172	1-218-990-11	SHORT	0		
R701	1-218-943-11	RES-CHIP	150	5%	1/16W
R702	1-218-965-11	RES-CHIP	10K	5%	1/16W
R703	1-218-967-11	RES-CHIP	15K	5%	1/16W
R704	1-218-887-11	METAL CHIP	47K	0.5%	1/16W
R706	1-218-887-11	METAL CHIP	47K	0.5%	1/16W
R707	1-218-867-11	METAL CHIP	6.8K	0.5%	1/16W
R708	1-218-943-11	RES-CHIP	150	5%	1/16W
R709	1-218-965-11	RES-CHIP	10K	5%	1/16W
R711	1-218-905-11	METAL CHIP	270K	0.5%	1/16W
R713	1-218-887-11	METAL CHIP	47K	0.5%	1/16W
R714	1-218-883-11	METAL CHIP	33K	0.5%	1/16W
R715	1-218-990-11	SHORT	0		
R716	1-216-864-11	METAL CHIP	0	5%	1/16W
R801	1-218-942-11	RES-CHIP	120	5%	1/16W
R802	1-218-941-11	RES-CHIP	100	5%	1/16W
		< VIBRATOR >			
X101	1-781-762-21	VIBRATOR, CRYSTAL (25.8048Hz)			

A-7074-272-A PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 61K)
A-7074-280-A PD-117 BOARD, COMPLETE (2.5 LCD TYPE S 123K)
****
(Ref. No.: 20, 000 Series)

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C5501	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5516	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (2.5 LCD TYPE S 61K)
C5516	1-162-925-11	CERAMIC CHIP	68PF	5%	50V (2.5 LCD TYPE S 123K)
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5528	1-135-177-21	TANTALUM CHIP	1uF	20%	25V
C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C5530	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5531	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5602	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
⚠C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
C5608	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
CN5604	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN5703	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			
CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P			
		< DIODE >			
D5502	8-713-102-80	DIODE 1T369-01-T8A			
D5503	8-719-073-01	DIODE MA111- (K8) .S0			
⚠D5601	8-719-073-01	DIODE MA111- (K8) .S0			
D5602	8-719-062-44	DIODE PG1112H-TR (STARTER)			
		< FERRITE BEAD >			
FB5502	1-414-760-21	FERRITE	0uH		
FB5503	1-414-760-21	FERRITE	0uH		
		< IC >			
IC5501	8-759-660-92	IC RB5P003AM1			
IC5502	8-759-660-91	IC LZ9FF424			
IC5503	8-759-478-92	IC TC7SET04FU (TE85R)			
IC5601	8-759-564-49	IC TC7W53FU (TE12R)			
IC5602	8-759-075-70	IC TA75S393F-TE85R			
IC5701	8-759-573-02	IC BU9735K-E2			
		< COIL >			
L5501	1-469-525-91	INDUCTOR	10uH		
L5504	1-469-525-91	INDUCTOR	10uH		
L5505	1-412-956-21	INDUCTOR	27uH (2.5 LCD TYPE S 61K)		
L5505	1-412-949-21	INDUCTOR	6.8uH (2.5 LCD TYPE S 123K)		
L5601	1-419-387-21	INDUCTOR	100uH		
		< TRANSISTOR >			
Q5501	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)			
Q5502	8-729-041-23	TRANSISTOR MGSF1P02LT1			
Q5503	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO			
Q5504	8-729-037-53	TRANSISTOR 2SB1462J-QR (K8) .SO			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-117 (2.5 LCD TYPE S 61K)/PD-117 (2.5 LCD TYPE S 123K)

PD-117 (2.5 LCD TYPE C 61K)

Ref. No.	Part No.	Description			Remark
Q5505	8-729-037-52	TRANSISTOR	2SC4738F-Y/GR (TPL3)		
Q5506	8-729-037-52	TRANSISTOR	2SC4738F-Y/GR (TPL3)		
Q5601	8-729-042-29	TRANSISTOR	RN1104F (TPL3)		
Q5602	8-729-039-43	TRANSISTOR	FP216-TL		
Q5603	8-729-042-29	TRANSISTOR	RN1104F (TPL3)		
Q5604	8-729-042-58	TRANSISTOR	RN2102F (TPL3)		
		< RESISTOR >			
R5501	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5503	1-218-895-11	METAL CHIP	100K	0.5%	1/16W
R5504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5505	1-216-835-11	METAL CHIP	15K	5%	1/16W
R5506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R5507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5508	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5511	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5513	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5515	1-216-864-11	METAL CHIP	0	5%	1/16W
R5516	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5519	1-216-864-11	METAL CHIP	0	5%	1/16W
R5520	1-216-864-11	METAL CHIP	0	5%	1/16W
R5521	1-216-864-11	METAL CHIP	0	5%	1/16W
R5523	1-216-809-11	METAL CHIP	100	5%	1/16W
R5524	1-216-809-11	METAL CHIP	100	5%	1/16W
R5525	1-216-809-11	METAL CHIP	100	5%	1/16W
R5551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5553	1-216-821-11	METAL CHIP	1K	5%	1/16W
					(2.5 LCD TYPE S 61K)
R5553	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
					(2.5 LCD TYPE S 123K)
R5557	1-216-864-11	METAL CHIP	0	5%	1/16W
R5560	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5562	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5563	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5564	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5565	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5569	1-216-848-11	METAL CHIP	180K	5%	1/16W
R5608	1-216-864-11	METAL CHIP	0	5%	1/16W
R5609	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5610	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R5613	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5614	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5616	1-216-810-11	METAL CHIP	120	5%	1/16W
R5617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5618	1-216-817-11	METAL CHIP	470	5%	1/16W
R5702	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R5704	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5706	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R5707	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R5708	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R5711	1-216-864-11	METAL CHIP	0	5%	1/16W
R5712	1-216-855-11	METAL CHIP	680K	5%	1/16W
R5714	1-216-864-11	METAL CHIP	0	5%	1/16W

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S5701	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT +)			
S5702	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT –)			
S5703	1-692-088-41	SWITCH, TACTILE (VOLUME +)			
S5704	1-692-088-41	SWITCH, TACTILE (VOLUME –)			
		< TRANSFORMER >			
⚠T5601	1-435-226-11	TRANSFORMER, INVERTER			
	A-7074-290-A	PD-117 BOARD, COMPLETE			
					(2.5 LCD TYPE C 61K)
	***********************************				
					(Ref. No.: 20, 000 Series)
		< CAPACITOR >			
C5501	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5516	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C5602	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
⚠C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
C5608	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
CN5604	1-764-709-11	CONNECTOR, FFC/FPC (LIF) 10P			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
CN5703	1-691-344-11	CONNECTOR, FFC/FPC (ZIF) 6P			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P			
		< DIODE >			
D5502	8-713-102-80	DIODE 1T369-01-T8A			
⚠D5601	8-719-073-01	DIODE MA111- (K8) .S0			
D5602	8-719-062-44	DIODE PG1112H-TR (STARTER)			
		< FERRITE BEAD >			
FB5502	1-414-760-21	FERRITE	0uH		
FB5503	1-414-760-21	FERRITE	0uH		
		< IC >			
IC5501	8-759-660-92	IC RB5P003AM1			
IC5502	8-759-591-93	IC CM7019L3-T4			
IC5601	8-759-564-49	IC TC7W53FU (TE12R)			
IC5602	8-759-075-70	IC TA75S393F-TE85R			
IC5701	8-759-573-02	IC BU9735K-E2			
		< COIL >			
L5501	1-469-525-91	INDUCTOR	10uH		
L5504	1-469-525-91	INDUCTOR	10uH		
L5505	1-412-956-21	INDUCTOR	27uH		
L5601	1-419-387-21	INDUCTOR	100uH		
		< TRANSISTOR >			
Q5501	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)			
Q5601	8-729-042-29	TRANSISTOR RN1104F (TPL3)			
Q5602	8-729-039-43	TRANSISTOR FP216-TL			
Q5603	8-729-042-29	TRANSISTOR RN1104F (TPL3)			
Q5604	8-729-042-58	TRANSISTOR RN2102F (TPL3)			
		< RESISTOR >			
R5501	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5503	1-218-895-11	METAL CHIP	100K	0.5%	1/16W
R5504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5505	1-216-835-11	METAL CHIP	15K	5%	1/16W
R5506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R5507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5508	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5511	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5514	1-216-864-11	METAL CHIP	0	5%	1/16W
R5516	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5517	1-216-849-11	METAL CHIP	220K	5%	1/16W
R5518	1-216-864-11	METAL CHIP	0	5%	1/16W
R5519	1-216-864-11	METAL CHIP	0	5%	1/16W
R5520	1-216-864-11	METAL CHIP	0	5%	1/16W
R5522	1-216-864-11	METAL CHIP	0	5%	1/16W
R5523	1-216-809-11	METAL CHIP	100	5%	1/16W
R5524	1-216-809-11	METAL CHIP	100	5%	1/16W
R5525	1-216-809-11	METAL CHIP	100	5%	1/16W
R5551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5553	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5557	1-216-864-11	METAL CHIP	0	5%	1/16W
R5559	1-216-864-11	METAL CHIP	0	5%	1/16W
R5560	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5566	1-216-864-11	METAL CHIP	0	5%	1/16W
R5567	1-216-864-11	METAL CHIP	0	5%	1/16W
R5568	1-216-864-11	METAL CHIP	0	5%	1/16W
R5608	1-216-864-11	METAL CHIP	0	5%	1/16W
R5609	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5610	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R5613	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5614	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5616	1-216-810-11	METAL CHIP	120	5%	1/16W
R5617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5618	1-216-817-11	METAL CHIP	470	5%	1/16W
R5702	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R5704	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5706	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R5707	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R5708	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R5711	1-216-864-11	METAL CHIP	0	5%	1/16W
R5712	1-216-855-11	METAL CHIP	680K	5%	1/16W
R5714	1-216-864-11	METAL CHIP	0	5%	1/16W
		< SWITCH >			
S5701	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT +)			
S5702	1-692-088-41	SWITCH, TACTILE (LCD BRIGHT –)			
S5703	1-692-088-41	SWITCH, TACTILE (VOLUME +)			
S5704	1-692-088-41	SWITCH, TACTILE (VOLUME –)			
		< TRANSFORMER >			
⚠T5601	1-435-226-11	TRANSFORMER, INVERTER			

A-7074-374-A PD-118 BOARD, COMPLETE (3 LCD TYPE S)
A-7074-348-A PD-118 BOARD, COMPLETE (3.5 LCD TYPE S)
A-7074-371-A PD-118 BOARD, COMPLETE (4 LCD TYPE S)
****

(Ref. No.: 30, 000 Series)

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C5501	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5516	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (3.5 LCD TYPE S)
C5516	1-162-925-11	CERAMIC CHIP	68PF	5%	50V (4 LCD TYPE S)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

PD-118 (3 LCD TYPE S)/PD-118 (3.5 LCD TYPE S)/PD-118 (4 LCD TYPE S)

Ref. No.	Part No.	Description			Remark
C5516	1-162-926-11	CERAMIC CHIP	82PF	5%	50V (3 LCD TYPE S)
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5528	1-135-177-21	TANTALUM CHIP	1uF	20%	25V
C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C5530	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5531	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5602	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
⚠C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
* CN5604	1-569-352-11	HOUSING, CONNECTOR 10P			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
* CN5703	1-778-154-21	CONNECTOR, FFC/FPC (ZIF) 6P			
CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P			
CN5707	1-691-374-11	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D5502	8-713-102-80	DIODE	1T369-01-T8A		
D5503	8-719-073-01	DIODE	MA111- (K8) .S0		
⚠D5601	8-719-073-01	DIODE	MA111- (K8) .S0		
D5702	8-719-073-01	DIODE	MA111- (K8) .S0		
		< IC >			
IC5501	8-759-660-92	IC	RB5P003AM1		
IC5502	8-759-660-91	IC	LZ9FF424		
IC5503	8-759-478-92	IC	TC7SET04FU (TE85R)		
IC5601	8-759-564-49	IC	TC7W53FU (TE12R)		
IC5602	8-759-075-70	IC	TA75S393F-TE85R		
IC5701	8-759-573-02	IC	BU9735K-E2		
		< COIL >			
L5501	1-469-525-91	INDUCTOR	10uH		
L5502	1-469-525-91	INDUCTOR	10uH		
L5503	1-469-525-91	INDUCTOR	10uH		
L5504	1-469-525-91	INDUCTOR	10uH		
L5505	1-412-949-21	INDUCTOR	6.8uH		
L5601	1-419-387-21	INDUCTOR	100uH		

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q5501	8-729-037-52	TRANSISTOR	2SD2216J-QR (K8) .SO		
Q5502	8-729-041-23	TRANSISTOR	MGSF1P02LT1		
Q5503	8-729-037-53	TRANSISTOR	2SB1462J-QR (K8) .SO		
Q5504	8-729-037-53	TRANSISTOR	2SB1462J-QR (K8) .SO		
Q5505	8-729-037-52	TRANSISTOR	2SD2216J-QR (K8) .SO		
Q5506	8-729-037-52	TRANSISTOR	2SD2216J-QR (K8) .SO		
Q5601	8-729-037-74	TRANSISTOR	UN9213J- (K8) .SO		
Q5602	8-729-039-43	TRANSISTOR	FP216-TL		
Q5603	8-729-037-74	TRANSISTOR	UN9213J- (K8) .SO		
Q5604	8-729-042-58	TRANSISTOR	UN9111J- (K8) .SO		
		< RESISTOR >			
R5501	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5503	1-218-895-11	METAL CHIP	100K	0.5%	1/16W
R5504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5505	1-216-835-11	METAL CHIP	15K	5%	1/16W
R5506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R5507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5508	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5511	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5513	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5515	1-216-864-11	METAL CHIP	0	5%	1/16W
R5516	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5519	1-216-864-11	METAL CHIP	0	5%	1/16W
R5520	1-216-864-11	METAL CHIP	0	5%	1/16W
R5521	1-216-864-11	METAL CHIP	0	5%	1/16W
R5523	1-216-809-11	METAL CHIP	100	5%	1/16W
R5524	1-216-809-11	METAL CHIP	100	5%	1/16W
R5525	1-216-809-11	METAL CHIP	100	5%	1/16W
R5551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5553	1-216-832-11	METAL CHIP	8.2K	5%	1/16W (4 LCD TYPE S)
R5553	1-216-830-11	METAL CHIP	5.6K	5%	1/16W (3.5 LCD TYPE S)
R5553	1-216-829-11	METAL CHIP	4.7K	5%	1/16W (3 LCD TYPE S)
R5557	1-216-864-11	METAL CHIP	0	5%	1/16W
R5560	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5562	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5563	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5564	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5565	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5569	1-216-848-11	METAL CHIP	180K	5%	1/16W
R5608	1-216-864-11	METAL CHIP	0	5%	1/16W
R5609	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5610	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R5613	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5614	1-216-836-11	METAL CHIP	18K	5%	1/16W
R5616	1-216-810-11	METAL CHIP	120	5%	1/16W
R5617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5618	1-216-817-11	METAL CHIP	470	5%	1/16W
R5702	1-216-822-11	METAL CHIP	1.2K	5%	1/16W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R5704	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5706	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R5707	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R5708	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R5712	1-216-855-11	METAL CHIP	680K	5%	1/16W
R5714	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSFORMER >			
⚠T5601	1-435-229-21	TRANSFORMER, INVERTER			

A-7074-377-A PD-118 BOARD, COMPLETE (3.5 LCD TYPE C)
A-7074-383-A PD-118 BOARD, COMPLETE (4 LCD TYPE C)
****
(Ref. No.: 30, 000 Series)

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C5501	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5508	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5509	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C5510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C5512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5514	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C5515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C5516	1-162-925-11	CERAMIC CHIP	68PF	5%	50V (3.5 LCD TYPE C)
C5516	1-162-927-11	CERAMIC CHIP	100PF	5%	50V (4 LCD TYPE C)
C5517	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5518	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5519	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5520	1-113-994-11	TANTAL. CHIP	6.8uF	20%	16V
C5521	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5522	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5524	1-107-682-11	CERAMIC CHIP	1uF	10%	16V
C5527	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C5529	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
C5602	1-113-682-11	TANTAL. CHIP	33uF	20%	10V
C5603	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C5604	1-164-657-11	CERAMIC CHIP	0.015uF	10%	50V
C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5606	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
⚠C5607	1-131-959-91	CERAMIC CHIP	12PF	10%	3KV
C5704	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN5501	1-573-364-11	CONNECTOR, FFC/FPC 24P			
* CN5502	1-573-984-11	CONNECTOR, BOARD TO BOARD 10P			
* CN5604	1-569-352-11	HOUSING, CONNECTOR 10P			
CN5701	1-779-893-11	PIN, CONNECTOR (PC BOARD) 8P			
CN5702	1-779-064-11	PIN, CONNECTOR (PC BOARD) 12P			
* CN5703	1-778-154-21	CONNECTOR, FFC/FPC (ZIF) 6P			
CN5704	1-778-508-21	PIN, CONNECTOR (PC BOARD) 6P			
CN5705	1-764-532-21	CONNECTOR, FFC/FPC (ZIF) 26P			
CN5707	1-691-374-11	CONNECTOR, FFC/FPC 10P			
		< DIODE >			
D5502	8-713-102-80	DIODE	1T369-01-T8A		
⚠D5601	8-719-073-01	DIODE	MA111- (K8) .S0		
D5702	8-719-073-01	DIODE	MA111- (K8) .S0		
		< IC >			
IC5501	8-759-660-92	IC	RB5P003AM1		
IC5502	8-759-591-93	IC	CM7019L3-T4		
IC5601	8-759-564-49	IC	TC7W53FU (TE12R)		
IC5602	8-759-075-70	IC	TA75S393F-TE85R		
IC5701	8-759-573-02	IC	BU9735K-E2		
		< COIL >			
L5501	1-469-525-91	INDUCTOR	10uH		
L5502	1-469-525-91	INDUCTOR	10uH		
L5503	1-469-525-91	INDUCTOR	10uH		
L5504	1-469-525-91	INDUCTOR	10uH		
L5505	1-412-950-11	INDUCTOR	8.2uH (3.5 LCD TYPE C)		
L5505	1-412-949-21	INDUCTOR	6.8uH (4 LCD TYPE C)		
L5601	1-419-387-21	INDUCTOR	100uH		
		< TRANSISTOR >			
Q5501	8-729-037-52	TRANSISTOR	2SD2216J-QR (K8) .SO		
Q5601	8-729-037-74	TRANSISTOR	UN9213J- (K8) .SO		
Q5602	8-729-039-43	TRANSISTOR	FP216-TL		
Q5603	8-729-037-74	TRANSISTOR	UN9213J- (K8) .SO		
Q5604	8-729-042-58	TRANSISTOR	UN9111J- (K8) .SO		
		< RESISTOR >			
R5501	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5503	1-218-895-11	METAL CHIP	100K	0.5%	1/16W
R5504	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5505	1-216-835-11	METAL CHIP	15K	5%	1/16W
R5506	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R5507	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5508	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5509	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R5511	1-216-857-11	METAL CHIP	1M	5%	1/16W
R5512	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5514	1-216-864-11	METAL CHIP	0	5%	1/16W
R5516	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5517	1-216-846-11	METAL CHIP	120K	5%	1/16W
R5518	1-216-864-11	METAL CHIP	0	5%	1/16W
R5519	1-216-864-11	METAL CHIP	0	5%	1/16W
R5520	1-216-864-11	METAL CHIP	0	5%	1/16W
R5522	1-216-864-11	METAL CHIP	0	5%	1/16W
R5523	1-216-809-11	METAL CHIP	100	5%	1/16W
R5524	1-216-809-11	METAL CHIP	100	5%	1/16W
R5525	1-216-809-11	METAL CHIP	100	5%	1/16W
R5551	1-216-841-11	METAL CHIP	47K	5%	1/16W
R5553	1-216-831-11	METAL CHIP	6.8K	5%	1/16W (3.5 LCD TYPE C)

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
R5553	1-216-833-91	RES-CHIP	10K	5%	1/16W (4 LCD TYPE C)
R5557	1-216-864-11	METAL CHIP	0	5%	1/16W
R5559	1-216-864-11	METAL CHIP	0	5%	1/16W
R5560	1-216-853-11	METAL CHIP	470K	5%	1/16W
R5566	1-216-864-11	METAL CHIP	0	5%	1/16W
R5567	1-216-864-11	METAL CHIP	0	5%	1/16W
R5568	1-216-864-11	METAL CHIP	0	5%	1/16W
R5608	1-216-864-11	METAL CHIP	0	5%	1/16W
R5609	1-216-833-91	RES-CHIP	10K	5%	1/16W
R5610	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5611	1-216-845-11	METAL CHIP	100K	5%	1/16W
R5612	1-216-834-11	METAL CHIP	12K	5%	1/16W
R5613	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R5614	1-216-836-11	METAL CHIP	18K	5%	1/16W
R5616	1-216-810-11	METAL CHIP	120	5%	1/16W
R5617	1-216-837-11	METAL CHIP	22K	5%	1/16W
R5618	1-216-817-11	METAL CHIP	470	5%	1/16W
R5702	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R5704	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R5706	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R5707	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R5708	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R5712	1-216-855-11	METAL CHIP	680K	5%	1/16W
R5714	1-216-864-11	METAL CHIP	0	5%	1/16W
		< TRANSFORMER >			
⚠T5601	1-435-229-21	TRANSFORMER, INVERTER			

Ref. No.	Part No.	Description			Remark
	A-7074-329-A	SE-104 BOARD, COMPLETE (TRV320/TRV320P)			
	A-7074-353-A	SE-104 BOARD, COMPLETE (TRV320E)			
	A-7074-345-A	SE-112 BOARD, COMPLETE (TRV520/TRV520P/TRV525)			
	A-7074-375-A	SE-112 BOARD, COMPLETE (TRV420E/TRV520E/TRV620E)			
	A-7074-369-A	SE-114 BOARD, COMPLETE (TRV720E)			
	A-7074-379-A	SE-114 BOARD, COMPLETE (TRV720)			
	************************************				
		(Ref. No.: 20, 000 Series)			
		< CAPACITOR >			
C201	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C202	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C203	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C204	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C207	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C208	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C209	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C210	1-110-666-11	ELECT CHIP	22uF	20%	6.3V
C211	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
C212	1-110-666-11	ELECT CHIP	22uF	20%	6.3V
C214	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C220	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C221	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C223	1-803-974-21	VARISTOR, CHIP (Note)			
C225	1-803-974-21	VARISTOR, CHIP (Note)			
C226	1-803-974-21	VARISTOR, CHIP (Note)			
		< CONNECTOR >			
CN201	1-779-369-11	CONNECTOR, SQUARE TYPE (INDI)4P (DV IN/OUT)(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/ TRV520P/TRV520E: E, HK, AUS, CN, JE/TRV525/TRV620E/ TRV720/TRV720E)			
CN201	1-794-080-11	CONNECTOR, SQUARE TYPE (INDI)4P (DV OUT) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)			
CN202	1-573-368-11	CONNECTOR, FFC/FPC 28P			
		< DIODE >			
D202	8-719-072-91	DIODE MAZJ200D0LS0			
D211	8-719-069-59	DIODE UDZS-TE17-8.2B			
D212	8-719-069-59	DIODE UDZS-TE17-8.2B			
		< IC >			
IC201	8-759-489-19	IC NJM3230V (TE2)			
		< JACK >			
J201	1-694-651-11	TERMINAL BOARD (S VIDEO ID-2) (AUDIO/VIDEO ID-2)			
J202	1-793-995-11	JACK, SUPER SMALL TYPE (LANC/DIGITAL I/O)			
		< COIL >			
L201	1-469-525-91	INDUCTOR	10uH		
		< RESISTOR >			
R201	1-216-837-11	METAL CHIP	22K	5%	1/16W
R202	1-216-837-11	METAL CHIP	22K	5%	1/16W
R203	1-216-837-11	METAL CHIP	22K	5%	1/16W
R204	1-216-837-11	METAL CHIP	22K	5%	1/16W
R205	1-216-864-11	METAL CHIP	0	5%	1/16W
R206	1-216-857-11	METAL CHIP	1M	5%	1/16W
R207	1-216-833-91	RES-CHIP	10K	5%	1/16W
R208	1-216-833-91	RES-CHIP	10K	5%	1/16W
R209	1-216-857-11	METAL CHIP	1M	5%	1/16W
R211	1-216-835-11	METAL CHIP	15K	5%	1/16W
R212	1-216-864-11	METAL CHIP	0	5%	1/16W
R213	1-216-864-11	METAL CHIP	0	5%	1/16W
R214	1-216-864-11	METAL CHIP	0	5%	1/16W
R215	1-216-295-91	SHORT	0		
R217	1-216-295-91	SHORT	0		
R219	1-216-864-11	METAL CHIP	0	5%	1/16W
R220	1-216-864-11	METAL CHIP	0	5%	1/16W
R224	1-216-864-11	METAL CHIP	0	5%	1/16W
R225	1-216-864-11	METAL CHIP	0	5%	1/16W
R226	1-216-864-11	METAL CHIP	0	5%	1/16W
R227	1-216-864-11	METAL CHIP	0	5%	1/16W

Note: Varistors are mounted to the location where C223, 225, 226 are printed

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

< SENSOR >

Ref. No.	Part No.	Description	Remark
SE201	1-803-042-31	SENSOR, ANGULAR VELOCITY (PITCH SENSOR) (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
SE201	1-418-252-11	SENSOR, ANGULAR VELOCITY (PITCH SENSOR) (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	
SE202	1-803-042-41	SENSOR, ANGULAR VELOCITY (YAW SENSOR) (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	
SE202	1-418-252-21	SENSOR, ANGULAR VELOCITY (YAW SENSOR) (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	

< VARISTOR >

Ref. No.	Part No.	Description	Remark
VDR001	1-801-923-11	VARISTOR, CHIP	

Ref. No.	Part No.	Description	Remark
	A-7094-874-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320/TRV320P/TRV520/TRV520P)	
	A-7094-873-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
	A-7094-878-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV320E: E, HK, AUS, CN/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)	
	A-7094-875-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV525/TRV720)	
	A-7094-877-A	VC-235 BOARD, COMPLETE (SERVICE) (TRV620E/TRV720E)	

****

(Ref. No.: 10, 000 Series)

< CAPACITOR >

Ref. No.	Part No.	Description			Remark
C1101	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1301	1-164-933-11	CERAMIC CHIP	220PF	10%	16V
C1302	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1303	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1304	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1305	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C1306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1307	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V
C1308	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C1309	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1310	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C1311	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V
C1312	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C1313	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1314	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1315	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1316	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1317	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1318	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1319	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1320	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1321	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1322	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1323	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1326	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1327	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1328	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C1329	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1330	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1331	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1332	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1333	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1334	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C1335	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1336	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3V
C1337	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C1338	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C1339	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1340	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1341	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1342	1-165-319-11	CERAMIC CHIP	0.1uF		50V
C1343	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C1344	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C1345	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1346	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C1347	1-135-216-11	TANTALUM CHIP	10uF	20%	10V
C1348	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
C1350	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C1351	1-164-943-11	CERAMIC CHIP (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	0.01uF	10%	16V
C1352	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1353	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1354	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C1355	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1356	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C1357	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C1359	1-164-506-11	CERAMIC CHIP	4.7uF		16V
C1501	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C1502	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1503	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C1504	1-115-156-11	CERAMIC CHIP (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720) (Note)	1uF		10V
C1505	1-115-156-11	CERAMIC CHIP	1uF		10V
C1506	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C1507	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1508	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1509	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1511	1-163-021-91	CERAMIC CHIP	0.01uF	10%	50V
C1512	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1513	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C1514	1-162-925-11	CERAMIC CHIP (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)	68PF	5%	50V
C1514	1-162-921-11	CERAMIC CHIP (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)	33PF	5%	50V
C1515	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C1516	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C1517	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C1518	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1519	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V

Note: C1504 is mounted on the board with suffix number 13 (23, 33)

Ref. No.	Part No.	Description			Remark
C1520	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1521	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1522	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1523	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1524	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C1525	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1552	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1554	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C1556	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C1558	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1559	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C1560	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C1561	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1562	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C1563	1-125-839-91	TANTAL. CHIP	47uF	20%	6.3V
C1564	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C1565	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C1566	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1568	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C1569	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1570	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C1571	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C1572	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2201	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2202	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C2203	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2204	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2208	1-164-392-11	CERAMIC CHIP	390PF	5%	50V
C2210	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2211	1-119-660-11	TANTAL. CHIP	4.7uF	20%	6.3V
C2212	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2213	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2215	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2223	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C2225	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2226	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2227	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2228	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C2229	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2230	1-164-938-11	CERAMIC CHIP	0.0015uF	10%	16V
C2232	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C2233	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2234	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2238	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2240	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2242	1-115-156-11	CERAMIC CHIP	1uF		10V
C2243	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2244	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2247	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2250	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C2291	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C2292	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C2293	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3102	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3104	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3105	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3107	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3108	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C3109	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3110	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3111	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3112	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3113	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3114	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C3115	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3116	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C3117	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C3118	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3119	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
C3120	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3121	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3122	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3123	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C3124	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C3126	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3127	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3128	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3131	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3133	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3134	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3135	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C3136	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
C3137	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3138	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C3139	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C3141	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3142	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3143	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3144	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3201	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3202	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3203	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3204	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3205	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3207	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3208	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3210	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C3211	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3212	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3213	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C3214	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3215	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3216	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3217	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3218	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3301	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3302	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3303	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3305	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3306	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3307	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C3308	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C3309	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3310	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3311	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3312	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3313	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3314	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3315	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V

Ref. No.	Part No.	Description			Remark
C3316	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3317	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3318	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3319	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3320	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C3321	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3322	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C3323	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3324	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C3325	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C3326	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3327	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C3328	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3329	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3331	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C3332	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3333	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C3334	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3335	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3337	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3338	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
C3342	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3343	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3345	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3346	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3348	1-127-760-91	CERAMIC CHIP	4.7uF	10%	6.3V
C3601	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C3603	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3604	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3608	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3610	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C3611	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3612	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3613	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3614	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3615	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3616	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3617	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3618	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3619	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3620	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3621	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3622	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3626	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C3628	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3629	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3630	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3631	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3632	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3633	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3634	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3636	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C3701	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3704	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C3705	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C3706	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3707	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3708	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3709	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
C3710	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3711	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3712	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3713	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3714	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3715	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C3716	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3717	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3718	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3719	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3723	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3724	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3728	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3729	1-125-838-91	CERAMIC CHIP	2.2uF	10%	6.3V
C3730	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3731	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C3732	1-126-246-11	ELECT CHIP	220uF	20%	4V
C3733	1-126-246-11	ELECT CHIP	220uF	20%	4V
C3734	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C3735	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4401	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4402	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4403	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4404	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4405	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4406	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4407	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4408	1-104-912-11	TANTAL. CHIP	3.3uF	10%	6.3V
C4409	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4410	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4411	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4412	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4413	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4414	1-164-933-11	CERAMIC CHIP	220PF	10%	16V
C4415	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C4416	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4417	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4418	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C4419	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4420	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4421	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4424	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4425	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4426	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4427	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4428	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4429	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V
C4430	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4431	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4432	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4433	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4434	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4435	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C4436	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C4501	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C4504	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4505	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4506	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4507	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4508	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4509	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V

Ref. No.	Part No.	Description			Remark
C4510	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4801	1-115-156-11	CERAMIC CHIP	1uF		10V
C4802	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4803	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4804	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4805	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
C4806	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C4807	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4808	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4809	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4810	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4811	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4812	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4813	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4814	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4816	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4817	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4819	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C4820	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C4821	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C4822	1-164-854-11	CERAMIC CHIP	15PF	5%	16V
C4823	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4824	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4825	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4826	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4902	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C4903	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C4904	1-164-850-11	CERAMIC CHIP	10PF	0.50PF	16V
C4905	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4906	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4907	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4908	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4909	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C4910	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C4911	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5701	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C5702	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C5703	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5704	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5705	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C5706	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5709	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5710	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5711	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C5712	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C5713	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C5714	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5715	1-135-180-21	TANTALUM CHIP	3.3uF	20%	6.3V
C5716	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C5717	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5718	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5719	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5720	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5721	1-164-939-11	CERAMIC CHIP	0.0022uF	10%	16V
C5722	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5723	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C5724	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5725	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5728	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5730	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5731	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5732	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5733	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5734	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5735	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5736	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5737	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5738	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5739	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5740	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5741	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5742	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C5743	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C5744	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5745	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5746	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C5747	1-117-863-11	CERAMIC CHIP	0.47uF	10%	6.3V
C5748	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5749	1-164-870-11	CERAMIC CHIP	68PF	5%	16V
C5750	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C5751	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C5752	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5753	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C5754	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5755	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5756	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5757	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C5758	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C5759	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
		< CONNECTOR >			
CN1101	1-766-340-21	CONNECTOR, FFC/FPC 10P			
CN1103	1-766-358-21	CONNECTOR, FFC/FPC 28P			
CN1104	1-774-598-41	CONNECTOR, BOARD TO BOARD 100P			
CN1105	1-785-760-11	CONNECTOR, FFC/FPC (ZIF) 45P			
CN1107	1-766-342-21	CONNECTOR, FFC/FPC 12P			
CN1108	1-766-350-21	CONNECTOR, FFC/FPC 20P			
CN1109	1-794-059-21	PIN, CONNECTOR (PC BOARD) 8P			
CN1111	1-770-107-21	CONNECTOR, FFC/FPC (ZIF) 32P			
* CN1113	1-766-971-21	CONNECTOR, BOARD TO BOARD 42P			
CN1501	1-779-332-11	CONNECTOR, FFC/FPC 16P			
CN1551	1-750-360-21	CONNECTOR, FFC/FPC (ZIF) 24P			
CN3101	1-766-346-21	CONNECTOR, FFC/FPC 16P			
CN4401	1-766-644-21	CONNECTOR, FFC/FPC 8P			
CN4402	1-766-340-21	CONNECTOR, FFC/FPC 10P			
CN4403	1-766-342-21	CONNECTOR, FFC/FPC 12P			
CN4404	1-766-345-21	CONNECTOR, FFC/FPC 15P			
		< DIODE >			
D1101	8-719-069-59	DIODE	UDZS-TE17-8.2B		
D1102	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D1103	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D1104	8-719-062-16	DIODE	01ZA8.2 (TPL3)		
D1301	8-719-027-76	DIODE	1SS357-TPH3		
D1302	8-719-027-77	DIODE	MA796-TX		
D1305	8-719-027-76	DIODE	1SS357-TPH3		
D1306	8-719-027-76	DIODE	1SS357-TPH3		
D1501	8-713-103-84	DIODE	1T379-01-T8A		
D1551	8-719-073-01	DIODE	MA111- (K8) .S0		

Ref. No.	Part No.	Description	Remark
D2201	8-719-055-86	DIODE KV1470TL1-3	
D2202	8-719-055-86	DIODE KV1470TL1-3	
D3301	8-719-992-02	DIODE RB705D-T146	
D3302	8-719-055-86	DIODE KV1470TL1-3	
D3303	8-719-992-02	DIODE RB705D-T146	
D3304	8-719-055-86	DIODE KV1470TL1-3	
D4401	8-719-075-12	DIODE MA3XD21001S0	
D4801	8-719-073-01	DIODE MA111- (K8) .S0	
D4802	8-719-073-01	DIODE MA111- (K8) .S0	
D4803	8-719-073-01	DIODE MA111- (K8) .S0	
D4804	8-719-073-01	DIODE MA111- (K8) .S0	
D4808	8-719-027-76	DIODE 1SS357-TPH3	
D4809	8-719-027-76	DIODE 1SS357-TPH3	
D4810	8-719-069-59	DIODE UDZS-TE17-8.2B	
D4811	8-719-073-01	DIODE MA111- (K8) .S0	
		< FERRITE BEAD >	
FB1501	1-414-760-21	FERRITE 0uH	
FB1502	1-500-284-21	INDUCTOR CHIP 0uH	
FB1503	1-500-284-21	INDUCTOR CHIP 0uH	
FB1504	1-414-760-21	FERRITE 0uH	
FB1505	1-500-284-21	INDUCTOR CHIP 0uH	
FB2202	1-414-760-21	FERRITE 0uH	
FB2203	1-414-760-21	FERRITE 0uH	
FB2204	1-414-760-21	FERRITE 0uH	
FB2205	1-414-760-21	FERRITE 0uH	
FB2291	1-414-760-21	FERRITE 0uH	
FB3303	1-414-760-21	FERRITE 0uH	
FB3304	1-414-760-21	FERRITE 0uH	
FB3307	1-414-760-21	FERRITE 0uH	
FB3601	1-414-760-21	FERRITE 0uH	
FB3701	1-414-760-21	FERRITE 0uH	
FB4501	1-414-760-21	FERRITE 0uH	
FB4801	1-414-760-21	FERRITE 0uH	
FB4901	1-414-760-21	FERRITE 0uH	
		< IC >	
IC1301	8-752-090-20	IC CXA3057R-T6	
IC1302	8-759-652-10	IC TK11119SCL	
IC1303	8-759-650-28	IC RN5RZ59BA-TL	
IC1501	8-752-386-72	IC CXD2444R-T4	
IC1502	8-759-638-69	IC VSP2200Y-2K	
IC1552	8-759-444-87	IC NJM324V (TE2)	
IC1553	8-759-637-96	IC uPD16877MA-6A5-E2	
IC2201	8-752-402-75	IC CXD1453R	
IC2202	8-759-058-60	IC TC7SU04FU (TE85R)	
IC2291	8-759-169-02	IC MB88344BPFV-G-BND-ER	(TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720)
IC2291	8-759-536-93	IC M62371GP-600D	(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
IC3101	8-752-086-52	IC CXA2071R-T4	
IC3102	8-759-195-81	IC TC7S86FU (TE85R)	
IC3103	8-752-086-53	IC CXA2072R-T4	
IC3201	8-752-093-69	IC CXA3265R-T4	
IC3202	8-759-075-70	IC TA75S393F-TE85R	
IC3301	8-759-650-74	IC CAIN	
IC3302	8-759-641-50	IC MB90099PFV-G-102-BND-ER	
IC3303	8-759-566-52	IC SN104266PN-TEB	
IC3603	8-759-653-60	IC MB87L1241PFV-G-BND-ER	

Ref. No.	Part No.	Description	Remark
IC3701	8-759-599-37	IC AN2225FHQ-EB	
IC4401	8-759-640-85	IC CXA8096R-TBM	
IC4501	8-759-680-15	IC MB91192PFF-G-114-BND-ER	
IC4502	8-759-593-47	IC AK6417AM-E2	(TRV320/TRV320P/TRV520/TRV520P/ TRV525/TRV720)
IC4502	8-759-640-87	IC BR9016RFV-E2	(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
IC4801	8-759-424-79	IC S-8423YFS-T2	
IC4802	8-759-642-45	IC TL1596CPWR	
IC4803	8-759-680-69	IC S579631PZ-TEB	
IC4901	8-759-445-94	IC AK6480AM-E2	
IC4902	8-759-680-04	IC MB91192PFF-G-112-BND-ER	
IC5701	8-752-093-72	IC CXA3284R-T6	
IC5702	8-759-647-71	IC AK4550VT-E2	
		< COIL >	
L1301	1-416-670-11	INDUCTOR 33uH	
L1302	1-416-669-11	INDUCTOR 22uH	
L1303	1-416-669-11	INDUCTOR 22uH	
L1304	1-416-669-11	INDUCTOR 22uH	
L1305	1-416-669-11	INDUCTOR 22uH	
L1306	1-412-056-11	INDUCTOR 4.7uH	
L1307	1-412-056-11	INDUCTOR 4.7uH	
L1308	1-469-524-91	INDUCTOR 4.7uH	
L1309	1-469-524-91	INDUCTOR 4.7uH	
L1310	1-412-056-11	INDUCTOR 4.7uH	
L1311	1-469-524-91	INDUCTOR 4.7uH	
L1312	1-469-524-91	INDUCTOR 4.7uH	
L1313	1-469-524-91	INDUCTOR 4.7uH	
L1314	1-469-524-91	INDUCTOR 4.7uH	
L1315	1-469-524-91	INDUCTOR 4.7uH	
L1316	1-414-400-11	INDUCTOR 22uH	
L1317	1-416-669-11	INDUCTOR 22uH	
L1318	1-469-524-91	INDUCTOR 4.7uH	
L1320	1-469-526-91	INDUCTOR 22uH	
L1321	1-469-524-91	INDUCTOR 4.7uH	
L1501	1-469-525-91	INDUCTOR 10uH	
L1551	1-469-525-91	INDUCTOR 10uH	
L1552	1-469-525-91	INDUCTOR 10uH	
L1553	1-469-525-91	INDUCTOR 10uH	
L2201	1-469-525-91	INDUCTOR 10uH	
L2202	1-469-525-91	INDUCTOR 10uH	
L2203	1-469-525-91	INDUCTOR 10uH	
L2204	1-469-525-91	INDUCTOR 10uH	
L2207	1-412-945-11	INDUCTOR 3.3uH	
L2208	1-469-525-91	INDUCTOR 10uH	
L2209	1-469-525-91	INDUCTOR 10uH	
L2291	1-469-525-91	INDUCTOR 10uH	
L3102	1-469-525-91	INDUCTOR 10uH	
L3103	1-469-525-91	INDUCTOR 10uH	
L3104	1-469-525-91	INDUCTOR 10uH	
L3105	1-414-406-11	INDUCTOR 220uH	
L3106	1-412-952-11	INDUCTOR 12uH	
L3201	1-469-526-91	INDUCTOR 22uH	
L3303	1-412-936-11	INDUCTOR 0.56uH	
L3304	1-414-246-11	INDUCTOR 1.8uH	
L3305	1-469-525-91	INDUCTOR 10uH	
L3306	1-469-525-91	INDUCTOR 10uH	
L3307	1-469-525-91	INDUCTOR 10uH	

VC-235

Ref. No.	Part No.	Description	Remark
L3601	1-469-525-91	INDUCTOR 10uH	
L3602	1-469-525-91	INDUCTOR 10uH	
L3701	1-469-525-91	INDUCTOR 10uH	
L3705	1-469-525-91	INDUCTOR 10uH	
L5701	1-414-754-11	INDUCTOR 10uH	
		< TRANSISTOR >	
Q1101	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1102	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1103	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1104	8-729-042-29	TRANSISTOR RN1104F (TPL3)	(TRV320/TRV320E/TRV320P/TRV420E/TRV520/TRV520E/TRV520P)
Q1301	8-729-043-60	TRANSISTOR CPH6102-TL	
Q1302	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1303	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1304	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1305	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1306	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1307	8-729-044-58	TRANSISTOR SI2304DS-T1	
Q1308	8-729-044-58	TRANSISTOR SI2304DS-T1	
Q1309	8-729-046-98	TRANSISTOR CPH6702-TL	
Q1310	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1311	8-729-017-61	TRANSISTOR 2SB1581-T1	
Q1312	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1313	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1314	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q1315	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1316	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1317	8-729-037-74	TRANSISTOR UN9213J- (K8) .SO	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
Q1318	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1319	8-729-041-23	TRANSISTOR MGSF1P02LT1	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
Q1320	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1321	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1322	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1323	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1324	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1325	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1326	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1551	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q1552	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1553	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q1554	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q2204	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q2206	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3102	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3103	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3104	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3105	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3106	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3107	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3108	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3109	8-729-042-58	TRANSISTOR RN2102F (TPL3)	
Q3110	8-729-042-58	TRANSISTOR RN2102F (TPL3)	
Q3111	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3112	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3113	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3114	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3115	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3116	8-729-047-19	TRANSISTOR 2SA1965-S-TL	
Q3201	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3301	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	(TRV525/TRV620E/TRV720/TRV720E)
Q3302	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3303	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	(TRV525/TRV620E/TRV720/TRV720E)
Q3304	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3305	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3306	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3307	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3308	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3602	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3603	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q3604	8-729-807-86	TRANSISTOR 2SB1295-UL5/6-TB	
Q3605	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q3606	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q3701	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4401	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4402	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4801	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4802	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q4803	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4804	8-729-041-43	TRANSISTOR HN1L02FU (TE85R)	
Q4805	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4806	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4807	8-729-042-29	TRANSISTOR RN1104F (TPL3)	
Q4808	8-729-037-61	TRANSISTOR RN2104F (TPL3)	
Q4809	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR (TPL3)	
Q4810	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
Q4811	8-729-042-57	TRANSISTOR UN9110J- (K8) .SO	
Q4812	8-729-037-71	TRANSISTOR UN9210J- (K8) .SO	
Q4901	8-729-045-71	TRANSISTOR RN1102F (TPL3)	
Q5701	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5703	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5704	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5706	8-729-045-78	TRANSISTOR RN1110F (TPL3)	
Q5708	8-729-037-63	TRANSISTOR RN2111F (TPL3)	
Q5714	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
Q5715	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR (TPL3)	
		< RESISTOR >	
R1101	1-218-990-11	SHORT 0	
R1124	1-218-990-11	SHORT 0	
R1127	1-218-974-11	RES-CHIP 56K 5% 1/16W	(TRV320/TRV320P/TRV520/TRV520P)
R1127	1-218-965-11	RES-CHIP 10K 5% 1/16W	(TRV320E: E, HK, AUS, CN/TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)
R1127	1-218-969-11	RES-CHIP 22K 5% 1/16W	(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)
R1127	1-218-973-11	RES-CHIP 47K 5% 1/16W	(TRV620E/TRV720E)
R1127	1-218-977-11	RES-CHIP 100K 5% 1/16W	(TRV525/TRV720)
R1128	1-218-975-11	RES-CHIP 68K 5% 1/16W	(TRV320/TRV320P/TRV520/TRV520P)

Ref. No.	Part No.	Description				Remark
R1128	1-218-973-11	RES-CHIP	47K	5%	1/16W	(TRV525/TRV720)
R1128	1-218-977-11	RES-CHIP	100K	5%	1/16W	(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)
R1129	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1130	1-218-990-11	SHORT	0			
R1131	1-218-975-11	RES-CHIP	68K	5%	1/16W	(TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)
R1131	1-218-977-11	RES-CHIP	100K	5%	1/16W	(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)
R1132	1-218-974-11	RES-CHIP	56K	5%	1/16W	(TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)
R1132	1-218-973-11	RES-CHIP	47K	5%	1/16W	(TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)
R1137	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1141	1-216-295-91	SHORT	0			
R1142	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1143	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1144	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1145	1-218-990-11	SHORT	0			
R1146	1-218-951-11	RES-CHIP	680	5%	1/16W	
R1147	1-218-973-11	RES-CHIP	47K	5%	1/16W	
R1301	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1302	1-218-971-11	RES-CHIP	33K	5%	1/16W	
R1303	1-218-985-11	METAL CHIP	470K	0.5%	1/16W	
R1304	1-218-971-11	RES-CHIP	33K	5%	1/16W	
R1305	1-218-990-11	SHORT	0			
R1306	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1307	1-218-990-11	SHORT	0			
R1308	1-218-990-11	SHORT	0			
R1309	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R1310	1-218-990-11	SHORT	0			
R1311	1-218-971-11	RES-CHIP	33K	5%	1/16W	
R1312	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1313	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1314	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1315	1-218-990-11	SHORT	0			
R1316	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1317	1-218-973-11	RES-CHIP	47K	5%	1/16W	
R1318	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1319	1-218-973-11	RES-CHIP	47K	5%	1/16W	
R1320	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1321	1-208-715-11	METAL CHIP	22K	0.5%	1/16W	
R1322	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	
R1323	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1324	1-217-671-11	METAL CHIP	1	5%	1/10W	(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E)
R1325	1-217-671-11	METAL CHIP	1	5%	1/10W	(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E)
R1326	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R1327	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1328	1-218-989-11	RES-CHIP	1M	5%	1/16W	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
R1329	1-218-989-11	RES-CHIP	1M	5%	1/16W	(TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
R1330	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
R1331	1-218-968-11	RES-CHIP	18K	5%	1/16W	
R1332	1-208-943-11	METAL CHIP	220K	0.5%	1/16W	
R1333	1-218-973-11	RES-CHIP	47K	5%	1/16W	
R1334	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1335	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1336	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1337	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1338	1-208-935-11	METAL CHIP	100K	0.5%	1/16W	
R1339	1-208-927-11	METAL CHIP	47K	0.5%	1/16W	
R1340	1-218-967-11	RES-CHIP	15K	5%	1/16W	
R1341	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1342	1-208-943-11	METAL CHIP	220K	0.5%	1/16W	
R1343	1-208-931-11	METAL CHIP	68K	0.5%	1/16W	
R1344	1-218-990-11	SHORT	0			(TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV525/TRV620E/TRV720/TRV720E)
R1345	1-218-990-11	SHORT	0			
R1347	1-208-715-11	METAL CHIP	22K	0.5%	1/16W	
R1348	1-208-707-11	METAL CHIP	10K	0.5%	1/16W	
R1501	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1502	1-216-864-11	METAL CHIP	0	5%	1/16W	
R1503	1-218-977-11	RES-CHIP	100K	5%	1/16W	
R1504	1-218-941-11	RES-CHIP	100	5%	1/16W	
R1505	1-218-941-11	RES-CHIP	100	5%	1/16W	
R1506	1-218-941-11	RES-CHIP	100	5%	1/16W	
R1511	1-218-990-11	SHORT	0			
R1512	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R1514	1-218-990-11	SHORT	0			
R1520	1-218-990-11	SHORT	0			
R1551	1-218-973-11	RES-CHIP	47K	5%	1/16W	
R1552	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1553	1-216-295-91	SHORT	0			
R1555	1-218-975-11	RES-CHIP	68K	5%	1/16W	
R1556	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1557	1-218-975-11	RES-CHIP	68K	5%	1/16W	
R1558	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1559	1-218-961-11	RES-CHIP	4.7K	5%	1/16W	
R1560	1-218-929-11	RES-CHIP	10	5%	1/16W	
R1561	1-218-989-11	RES-CHIP	1M	5%	1/16W	
R1562	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	
R1563	1-218-965-11	RES-CHIP	10K	5%	1/16W	
R1564	1-218-981-11	RES-CHIP	220K	5%	1/16W	
R1565	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R1566	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R1567	1-218-957-11	RES-CHIP	2.2K	5%	1/16W	
R1568	1-218-967-11	RES-CHIP	15K	5%	1/16W	
R1569	1-218-969-11	RES-CHIP	22K	5%	1/16W	
R1570	1-218-985-11	RES-CHIP	470K	5%	1/16W	
R1571	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1572	1-218-953-11	RES-CHIP	1K	5%	1/16W	
R1573	1-218-947-11	RES-CHIP	330	5%	1/16W	
R1574	1-218-969-11	RES-CHIP	22K	5%	1/16W	

VC-235

Ref. No.	Part No.	Description			Remark
R1575	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1576	1-218-965-11	RES-CHIP	10K	5%	1/16W
R1577	1-218-973-11	RES-CHIP	47K	5%	1/16W
R2205	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2206	1-218-977-11	RES-CHIP	100K	5%	1/16W
R2208	1-218-990-11	SHORT	0		
R2209	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2210	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R2211	1-218-990-11	SHORT	0		
R2213	1-218-962-11	RES-CHIP	5.6K	5%	1/16W
R2215	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2216	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R2218	1-218-949-11	RES-CHIP	470	5%	1/16W
R2219	1-218-941-11	RES-CHIP	100	5%	1/16W
R2220	1-218-972-11	RES-CHIP	39K	5%	1/16W
R2221	1-218-952-11	RES-CHIP	820	5%	1/16W
R2222	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R2224	1-218-966-11	RES-CHIP	12K	5%	1/16W
R2225	1-218-949-11	RES-CHIP	470	5%	1/16W
R2230	1-218-990-11	SHORT	0		
R2240	1-218-989-11	RES-CHIP	1M	5%	1/16W
R2242	1-218-967-11	RES-CHIP	15K	5%	1/16W
R2243	1-218-967-11	RES-CHIP	15K	5%	1/16W
R2244	1-218-966-11	RES-CHIP	12K	5%	1/16W
R2245	1-218-949-11	RES-CHIP	470	5%	1/16W
R2247	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2248	1-218-965-11	RES-CHIP	10K	5%	1/16W
R2254	1-218-990-11	SHORT	0		
R2255	1-218-990-11	SHORT	0		
R2256	1-216-864-11	METAL CHIP	0	5%	1/16W
R3103	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3104	1-218-963-11	RES-CHIP	6.8K	5%	1/16W
R3105	1-218-990-11	SHORT	0		
R3106	1-218-990-11	SHORT	0		
R3107	1-218-979-11	RES-CHIP	150K	5%	1/16W
R3108	1-218-989-11	RES-CHIP	1M	5%	1/16W
R3109	1-218-966-11	RES-CHIP	12K	5%	1/16W
R3110	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3111	1-218-949-11	RES-CHIP	470	5%	1/16W
R3112	1-218-939-11	RES-CHIP	68	5%	1/16W
R3113	1-218-966-11	RES-CHIP	12K	5%	1/16W
R3114	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3115	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3116	1-218-990-11	SHORT	0		
R3117	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3118	1-220-196-11	METAL CHIP	13K	0.5%	1/16W
R3119	1-218-970-11	METAL CHIP	27K	0.5%	1/16W
R3120	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R3121	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R3122	1-208-931-11	METAL CHIP	68K	0.5%	1/16W
R3123	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3124	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3125	1-218-945-11	METAL CHIP	220	0.5%	1/16W
R3126	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3127	1-218-971-11	RES-CHIP	33K	5%	1/16W
R3128	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3129	1-218-945-11	METAL CHIP	220	0.5%	1/16W
R3130	1-218-945-11	METAL CHIP	220	0.5%	1/16W
R3131	1-218-945-11	METAL CHIP	220	0.5%	1/16W
R3132	1-218-946-11	RES-CHIP	270	5%	1/16W

Ref. No.	Part No.	Description			Remark
R3133	1-218-945-11	RES-CHIP	220	5%	1/16W
R3136	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3137	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3138	1-218-941-11	RES-CHIP	100	5%	1/16W
R3139	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R3140	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R3141	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R3142	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R3143	1-218-938-11	RES-CHIP	56	5%	1/16W
R3144	1-218-950-11	RES-CHIP	560	5%	1/16W
R3146	1-216-295-91	SHORT	0		
R3205	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3206	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3210	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3211	1-218-990-11	SHORT	0		
R3212	1-218-986-11	RES-CHIP	560K	5%	1/16W
R3213	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3214	1-218-981-11	RES-CHIP	220K	5%	1/16W
R3215	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R3305	1-218-990-11	SHORT	0		
R3306	1-218-990-11	SHORT	0		
R3308	1-218-990-11	SHORT	0		
R3309	1-218-990-11	SHORT	0		
R3310	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3311	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3312	1-218-946-11	RES-CHIP	270	5%	1/16W
R3313	1-218-990-11	SHORT	0		
R3314	1-218-990-11	SHORT	0		
R3315	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3316	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R3317	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3318	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3319	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3320	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3321	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3322	1-218-941-11	RES-CHIP	100	5%	1/16W
R3323	1-218-947-11	RES-CHIP	330	5%	1/16W
R3324	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3325	1-218-937-11	RES-CHIP	47	5%	1/16W
R3326	1-218-990-11	SHORT	0		
R3327	1-208-886-81	METAL CHIP	910	0.5%	1/16W (TRV525/TRV620E/TRV720/TRV720E)
R3328	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W
R3329	1-218-961-11	RES-CHIP	4.7K	5%	1/16W (TRV525/TRV620E/TRV720/TRV720E)
R3331	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3332	1-208-886-81	METAL CHIP	910	0.5%	1/16W (TRV525/TRV620E/TRV720/TRV720E)
R3333	1-218-990-11	SHORT	0		
R3334	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W
R3335	1-218-961-11	RES-CHIP	4.7K	5%	1/16W (TRV525/TRV620E/TRV720/TRV720E)
R3336	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3337	1-218-990-11	SHORT	0		
R3338	1-218-955-11	RES-CHIP	1.5K	5%	1/16W (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)
R3338	1-208-886-81	METAL CHIP	910	0.5%	1/16W (TRV525/TRV620E/TRV720/TRV720E)

Ref. No.	Part No.	Description			Remark
R3338	1-218-953-11	RES-CHIP	1K	5%	1/16W
					(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
R3340	1-218-849-11	METAL CHIP	1.2K	0.5%	1/16W
R3341	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3343	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3346	1-218-990-11	SHORT	0		
R3349	1-218-990-11	SHORT	0		
R3350	1-218-990-11	SHORT	0		
R3351	1-218-954-11	RES-CHIP	1.2K	5%	1/16W
R3352	1-218-990-11	SHORT	0		
R3356	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3358	1-218-945-11	RES-CHIP	220	5%	1/16W
R3360	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3361	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R3362	1-218-990-11	SHORT	0		
R3364	1-208-709-11	METAL CHIP	12K	0.5%	1/16W
R3365	1-218-990-11	SHORT	0		
R3367	1-218-938-11	METAL CHIP	56	0.5%	1/16W
R3368	1-218-938-11	METAL CHIP	56	0.5%	1/16W
R3369	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R3370	1-218-938-11	METAL CHIP	56	0.5%	1/16W
R3371	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R3372	1-218-938-11	METAL CHIP	56	0.5%	1/16W
R3375	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3376	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3377	1-218-941-11	RES-CHIP	100	5%	1/16W
R3378	1-218-941-11	RES-CHIP	100	5%	1/16W
R3379	1-218-941-11	RES-CHIP	100	5%	1/16W
R3380	1-218-941-11	RES-CHIP	100	5%	1/16W
R3381	1-218-941-11	RES-CHIP	100	5%	1/16W
R3382	1-218-990-11	SHORT	0		
R3383	1-218-990-11	SHORT	0		
R3385	1-216-864-11	METAL CHIP	0	5%	1/16W
R3386	1-216-864-11	METAL CHIP	0	5%	1/16W
R3387	1-218-990-11	SHORT	0		
					(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
R3388	1-218-990-11	SHORT	0		
					(TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)
R3604	1-218-990-11	SHORT	0		
R3607	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3609	1-218-990-11	SHORT	0		
R3611	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3612	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3617	1-218-951-11	RES-CHIP	680	5%	1/16W
R3618	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3622	1-218-949-11	RES-CHIP	470	5%	1/16W
R3636	1-218-990-11	SHORT	0		
R3639	1-218-990-11	SHORT	0		
R3643	1-218-990-11	SHORT	0		
R3652	1-218-990-11	SHORT	0		
R3656	1-218-990-11	SHORT	0		
R3657	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3658	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3659	1-218-960-11	RES-CHIP	3.9K	5%	1/16W
R3660	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3701	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3702	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3704	1-218-941-11	RES-CHIP	100	5%	1/16W
R3705	1-218-981-11	RES-CHIP	220K	5%	1/16W
R3712	1-218-936-11	RES-CHIP	39	5%	1/16W
R3713	1-218-935-11	RES-CHIP	33	5%	1/16W
R3714	1-218-936-11	RES-CHIP	39	5%	1/16W
R3715	1-218-935-11	RES-CHIP	33	5%	1/16W
R3716	1-218-936-11	RES-CHIP	39	5%	1/16W
R3717	1-218-935-11	RES-CHIP	33	5%	1/16W
R3721	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R3722	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3724	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3726	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3727	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3728	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3729	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3730	1-218-953-11	RES-CHIP	1K	5%	1/16W
R3734	1-216-295-91	SHORT	0		
R4401	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4402	1-218-983-11	RES-CHIP	330K	5%	1/16W
R4403	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4404	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4405	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4406	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4407	1-218-949-11	RES-CHIP	470	5%	1/16W
R4408	1-217-671-11	METAL CHIP	1	5%	1/10W
R4409	1-217-671-11	METAL CHIP	1	5%	1/10W
R4410	1-217-671-11	METAL CHIP	1	5%	1/10W
R4411	1-216-023-00	METAL CHIP	82	5%	1/10W
R4413	1-218-990-11	SHORT	0		
R4414	1-218-946-11	RES-CHIP	270	5%	1/16W
R4416	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4417	1-208-707-11	METAL CHIP	10K	0.5%	1/16W
R4423	1-218-990-11	SHORT	0		
R4424	1-218-967-11	RES-CHIP	15K	5%	1/16W
					(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
R4424	1-218-973-11	RES-CHIP	47K	5%	1/16W
					(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R4425	1-218-959-11	RES-CHIP	3.3K	5%	1/16W
R4426	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4427	1-218-990-11	SHORT	0		
					(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
R4427	1-218-965-11	RES-CHIP	10K	5%	1/16W
					(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R4428	1-217-671-11	METAL CHIP	1	5%	1/10W
R4429	1-217-671-11	METAL CHIP	1	5%	1/10W
R4430	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4431	1-218-967-11	RES-CHIP	15K	5%	1/16W
					(TRV320/TRV320P/TRV520/TRV520P/TRV525/ TRV720)
R4431	1-218-973-11	RES-CHIP	47K	5%	1/16W
					(TRV320E/TRV420E/TRV520E/TRV620E/ TRV720E)
R4432	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4434	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4435	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4436	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4437	1-218-990-11	SHORT	0		
R4438	1-218-990-11	SHORT	0		
R4442	1-218-990-11	SHORT	0		

Ref. No.	Part No.	Description			Remark
R4443	1-218-990-11	SHORT	0		
R4444	1-218-990-11	SHORT	0		
R4445	1-218-990-11	SHORT	0		
R4446	1-218-990-11	SHORT	0		
R4447	1-218-971-11	RES-CHIP	33K	5%	1/16W
R4448	1-218-971-11	RES-CHIP	33K	5%	1/16W
R4502	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4503	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4504	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4505	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4507	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4508	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4511	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4512	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4514	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4515	1-218-990-11	SHORT	0		
R4516	1-218-990-11	SHORT	0		
R4517	1-218-990-11	SHORT	0		
R4518	1-218-990-11	SHORT	0		
R4520	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4521	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4522	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4523	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4524	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4525	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4526	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4527	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4528	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4529	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4530	1-218-949-11	RES-CHIP	470	5%	1/16W
R4531	1-218-990-11	SHORT	0		
R4532	1-218-990-11	SHORT	0		
R4533	1-218-990-11	SHORT	0		
R4534	1-218-990-11	SHORT	0		
R4801	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4802	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4803	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4804	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4806	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4807	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R4808	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4809	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4810	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4811	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4813	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4814	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4815	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4816	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4817	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4818	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4819	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4820	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4821	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4822	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4823	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4824	1-218-958-11	RES-CHIP	2.7K	5%	1/16W
R4825	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4826	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4827	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4828	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4829	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4830	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4831	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4832	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4833	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4834	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R4835	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4836	1-218-989-11	METAL CHIP	1M	0.5%	1/16W
R4837	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4838	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4839	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4840	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4841	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4842	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4843	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4844	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4845	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4846	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4847	1-218-979-11	RES-CHIP	150K	5%	1/16W
R4848	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4849	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4850	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4851	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4852	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4853	1-218-949-11	RES-CHIP	470	5%	1/16W
R4856	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4861	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4862	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4863	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4864	1-218-986-11	RES-CHIP	560K	5%	1/16W
R4866	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4867	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4868	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4869	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4871	1-218-989-11	RES-CHIP	1M	5%	1/16W
R4872	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4873	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4874	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4875	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4876	1-219-570-11	RES-CHIP	10M	5%	1/16W
R4877	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4878	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4879	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4880	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4881	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4882	1-218-949-11	RES-CHIP	470	5%	1/16W
R4883	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4884	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4885	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4886	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4887	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4888	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4892	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4894	1-218-990-11	SHORT	0		
R4895	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4897	1-218-990-11	SHORT	0		
R4898	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4899	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4901	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4902	1-218-986-11	RES-CHIP	560K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R4903	1-218-990-11	SHORT	0		
R4904	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4906	1-218-990-11	SHORT	0		
R4908	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4910	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4911	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4912	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4913	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R4914	1-218-990-11	SHORT	0		
R4915	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4916	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R4917	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4918	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R4919	1-218-990-11	SHORT	0		
R4920	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4921	1-218-965-11	RES-CHIP	10K	5%	1/16W
R4922	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4923	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4924	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4925	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4926	1-218-985-11	RES-CHIP	470K	5%	1/16W
R4927	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4928	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4929	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4930	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4931	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4932	1-218-973-11	RES-CHIP	47K	5%	1/16W
R4933	1-218-990-11	SHORT	0		
R4934	1-218-990-11	SHORT	0		
R4935	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4936	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4938	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4939	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4940	1-218-977-11	RES-CHIP	100K	5%	1/16W
R4941	1-218-990-11	SHORT	0		
R4942	1-218-990-11	SHORT	0		
R4943	1-218-953-11	RES-CHIP	1K	5%	1/16W
R4944	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5701	1-218-990-11	SHORT	0		
R5702	1-218-990-11	SHORT	0		
R5707	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5708	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5709	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5710	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5711	1-218-941-11	RES-CHIP	100	5%	1/16W
R5712	1-218-941-11	RES-CHIP	100	5%	1/16W
R5714	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5715	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5717	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5718	1-218-967-11	RES-CHIP	15K	5%	1/16W
R5719	1-218-976-11	RES-CHIP	82K	5%	1/16W
R5720	1-218-979-11	RES-CHIP	150K	5%	1/16W
R5721	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5722	1-218-990-11	SHORT	0		
R5723	1-218-990-11	SHORT	0		
R5724	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5725	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5730	1-218-952-11	RES-CHIP	820	5%	1/16W

Ref. No.	Part No.	Description			Remark
R5731	1-218-949-11	RES-CHIP	470	5%	1/16W
R5732	1-218-949-11	RES-CHIP	470	5%	1/16W
R5733	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5735	1-218-990-11	SHORT	0		
R5736	1-218-990-11	SHORT	0		
R5737	1-218-990-11	SHORT	0		
R5738	1-218-990-11	SHORT	0		
R5739	1-218-990-11	SHORT	0		
R5740	1-218-990-11	SHORT	0		
R5741	1-218-990-11	SHORT	0		
R5742	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5743	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5744	1-218-973-11	RES-CHIP	47K	5%	1/16W
R5745	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5746	1-218-965-11	RES-CHIP	10K	5%	1/16W
R5747	1-218-973-11	RES-CHIP	47K	5%	1/16W

< TRANSFORMER >

T1301	1-435-252-11	TRANSFORMER, DC-DC CONVERTER

< VIBRATOR >

X1501	1-767-586-21	VIBRATOR, CRYSTAL (27MHZ) (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720)
X1501	1-767-400-11	VIBRATOR, CRYSTAL (36MHz) (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E)
X3301	1-767-399-11	VIBRATOR, CRYSTAL (24.576MHZ)
X4801	1-767-980-21	VIBRATOR, CERAMIC (20MHZ)
X4802	1-760-458-21	VIBRATOR, CRYSTAL (32.768KHZ)
X4901	1-760-655-41	VIBRATOR, CRYSTAL (20MHZ)

A-7073-838-A VF-129 BOARD, COMPLETE (TRV320/TRV320P/TRV520/TRV520P)

A-7073-855-A VF-129 BOARD, COMPLETE (TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)

****

(Ref. No.: 20, 000 Series)

< CAPACITOR >

C901	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C902	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C903	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C904	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C905	1-104-752-11	TANTAL. CHIP	33uF	20%	6.3V
C906	1-162-638-11	CERAMIC CHIP	1uF		16V
C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C908	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C909	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
⚠C910	1-162-625-11	CERAMIC CHIP	0.0047uF	5%	50V
⚠C911	1-164-715-11	CERAMIC CHIP	0.0068uF	5%	50V
C912	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
C913	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C914	1-113-984-11	TANTAL. CHIP	1.5uF	20%	35V
C915	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
* CN901	1-785-379-01	HOUSING, CONNECTOR 4P			
* CN902	1-580-057-11	PIN, CONNECTOR (SMD) 4P			
		< DIODE >			
D901	8-719-951-21	DIODE PR1102W-TR (TALLY)			
D903	8-719-073-01	DIODE MA111- (K8) .S0			
		< IC >			
IC901	8-759-196-14	IC BA7149F-E2			
		< COIL >			
L901	1-412-031-11	INDUCTOR CHIP 47uH			
L902	1-410-387-11	INDUCTOR CHIP 33uH			
⚠L903	1-411-697-11	COIL, FERRITE (HLC)			
		< TRANSISTOR >			
Q901	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
Q902	8-729-106-68	TRANSISTOR 2SD1615-T1GLGK			
Q903	8-729-216-31	TRANSISTOR 2SA1163G-TE85L			
Q904	8-729-230-63	TRANSISTOR 2SD1819A-QRS-TX			
		< RESISTOR >			
R901	1-216-817-11	METAL CHIP	470	5%	1/16W
R902	1-216-817-11	METAL CHIP	470	5%	1/16W
R903	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R904	1-216-833-91	RES-CHIP	10K	5%	1/16W
R905	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W
R908	1-216-852-11	METAL CHIP	390K	5%	1/16W
R909	1-216-833-91	RES-CHIP	10K	5%	1/16W
R910	1-216-835-11	METAL CHIP	15K	5%	1/16W
R911	1-216-160-00	RES-CHIP	27	5%	1/8W
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W
R915	1-218-879-11	METAL CHIP	22K	0.5%	1/16W
		(TRV320/TRV320P/TRV520/TRV520P)			
R916	1-218-881-11	METAL CHIP	27K	0.5%	1/16W
		(TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)			
R917	1-218-893-11	METAL CHIP	82K	0.5%	1/16W
		(TRV320E: E, HK, AUS, CN/TRV420E: CN/ TRV520E: E, HK, AUS, CN, JE)			
R917	1-218-891-11	METAL CHIP	68K	0.5%	1/16W
		(TRV320/TRV320P/TRV520/TRV520P)			
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R919	1-216-843-11	METAL CHIP	68K	5%	1/16W
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W
R921	1-216-795-11	RES-CHIP	6.8	5%	1/16W
R922	1-216-850-11	METAL CHIP	270K	5%	1/16W
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W
R924	1-216-862-11	RES-CHIP	2.7M	5%	1/16W
R925	1-216-862-11	RES-CHIP	2.7M	5%	1/16W
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W
R927	1-216-821-11	METAL CHIP	1K	5%	1/16W
R928	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R929	1-216-821-11	METAL CHIP	1K	5%	1/16W
R930	1-216-791-11	METAL CHIP	3.3	5%	1/16W

Ref. No.	Part No.	Description			Remark
R931	1-217-671-11	METAL CHIP	1	5%	1/10W
R932	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< VARIABLE RESISTOR >			
RV903	1-238-852-11	RES, ADJ, CERMET 470			
RV904	1-238-095-11	RES, ADJ, CERMET 470K			
		< TRANSFORMER >			
⚠T901	1-453-124-11	TRANSFORMER ASSY, FLYBACK			
		< FLAT CABLE >			
⚠W901	1-540-019-21	SOCKET ASSY, CRT			

Ref. No.	Part No.	Description			Remark
	A-7074-352-A	VF-141 BOARD, COMPLETE (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)			
	A-7074-193-A	VF-141 BOARD, COMPLETE (TRV525/TRV620E/TRV720/TRV720E)			
	**************************************				
		(Ref. No.: 20, 000 Series)			
		< CAPACITOR >			
C4501	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C4503	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4504	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4508	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4509	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4510	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4511	1-164-739-11	CERAMIC CHIP	560PF	5%	50V
C4512	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4513	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4514	1-107-687-11	TANTAL. CHIP	3.3uF	20%	20V
C4515	1-164-357-11	CERAMIC CHIP	1000PF	5%	50V
C4516	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C4517	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4518	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4519	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4520	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C4521	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C4523	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
C4524	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C4526	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C4527	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
		< CONNECTOR >			
CN4501	1-764-526-11	CONNECTOR, FFC/FPC 18P			
CN4502	1-750-630-11	CONNECTOR, FFC/FPC 16P			
		< DIODE >			
D4502	8-713-102-80	DIODE 1T369-01-T8A			
D4503	8-719-077-74	DIODE MA2S784008S0			
D4504	8-719-077-74	DIODE MA2S784008S0			
		< FERRITE BEAD >			
FB4502	1-500-329-21	INDUCTOR CHIP 0uH			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
FB4505	1-500-329-21	INDUCTOR CHIP 0uH	
		< IC >	
IC4501	8-759-591-95	IC RB5P0040M1 (TRV525/TRV620E/TRV720/TRV720E)	
IC4501	8-759-660-93	IC RB5P004AM1 (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
IC4502	8-752-400-96	IC CXD3501R-T4	
		< COIL >	
L4501	1-469-525-91	INDUCTOR 10uH	
L4504	1-412-949-21	INDUCTOR 6.8uH	
		< TRANSISTOR >	
Q4504	8-729-037-52	TRANSISTOR 2SD2216J-QR (K8) .SO	
		< RESISTOR >	
R4505	1-216-853-11	METAL CHIP 470K 5% 1/16W	
R4507	1-218-895-11	METAL CHIP 100K 0.5% 1/16W	
R4508	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R4513	1-216-835-11	METAL CHIP 15K 5% 1/16W	
R4515	1-216-826-11	METAL CHIP 2.7K 5% 1/16W	
R4516	1-216-841-11	METAL CHIP 47K 5% 1/16W	
R4517	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R4518	1-216-837-11	METAL CHIP 22K 5% 1/16W	
R4520	1-216-843-11	METAL CHIP 68K 5% 1/16W	
R4521	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R4522	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R4524	1-216-844-11	METAL CHIP 82K 5% 1/16W	
R4525	1-216-838-11	METAL CHIP 27K 5% 1/16W	
R4526	1-216-809-11	METAL CHIP 100 5% 1/16W	
R4527	1-216-809-11	METAL CHIP 100 5% 1/16W	
R4528	1-216-809-11	METAL CHIP 100 5% 1/16W	
R4529	1-216-833-91	RES-CHIP 10K 5% 1/16W	
R4530	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R4534	1-216-864-11	METAL CHIP 0 5% 1/16W	
R4542	1-216-864-11	METAL CHIP 0 5% 1/16W	
R4543	1-216-864-11	METAL CHIP 0 5% 1/16W	
R4544	1-216-853-11	METAL CHIP 470K 5% 1/16W	

MISCELLANEOUS
****

Ref. No.	Part No.	Description	Remark
10	1-676-818-31	FP-156 FLEXIBLE BOARD	
11	1-790-334-11	CABLE, FLEXIBLE FLAT (FFC-257S)	
59	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV320/TRV320E/TRV320P)	
104	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV320/TRV320E/TRV320P)	
106	1-960-225-11	HARNESS (DP-83) (TRV320/TRV320E/TRV320P)	
110	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV320/TRV320E/TRV320P)	
157	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
204	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
206	1-960-225-11	HARNESS (DP-83) (TRV420E/TRV520/ TRV520E/TRV520P/TRV525/TRV620E)	
210	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
212	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000) (TRV420E/TRV520/TRV520E/TRV520P/ TRV525/TRV620E)	
257	1-418-801-11	SWITCH BLOCK, CONTROL (MF-10000) (TRV720/TRV720E)	
262	1-960-227-11	HARNESS (DP-87) (TRV720/TRV720E)	
304	1-418-802-11	SWITCH BLOCK, PANEL REVERSE (PR-10000) (TRV720/TRV720E)	
306	1-960-225-11	HARNESS (DP-83) (TRV720/TRV720E)	
310	A-7094-826-A	INDICATION (LCD) BLOCK ASSY (SERVICE) (TRV720/TRV720E)	
312	1-418-803-11	SWITCH BLOCK, CONTROL (BV-10000) (TRV720/TRV720E)	
359	1-792-454-11	CABLE, FLEXIBLE FLAT (FFC-289) (TRV320/ TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	
401	1-676-299-11	FP-151 FLEXIBLE BOARD (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/ TRV525/TRV620E/TRV720/TRV720E)	
456	1-418-800-11	SWITCH BLOCK, CONTROL (SS-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/ TRV720/TRV720E)	
456	1-418-800-31	SWITCH BLOCK, CONTROL (SS-10000) (TRV320E: AEP, UK, EE, NE, RU/ TRV420E: AEP/TRV520E: AEP)	
465	1-676-823-21	FP-162 FLEXIBLE BOARD	
466	1-500-226-31	BEAD, FERRITE	
469	1-960-596-11	HARNESS (HT-054)	
501	1-793-996-11	CONNECTOR, EXTERNAL	
507	1-676-822-11	FP-161 FLEXIBLE BOARD	
509	1-758-155-21	FILTER BLOCK, OPTICAL (TRV320E/TRV420E/ TRV520E/TRV620E/TRV720E)	
509	1-758-216-21	FILTER BLOCK, OPTICAL (TRV320/TRV320P/ TRV520/TRV520P/TRV525/TRV720)	
511	8-848-736-01	DEVICE, LENS LSV-680A	
512	1-758-445-11	IRIS IR-680 (including FLEXIBLE BOARD)	
551	1-676-819-11	FP-157 FLEXIBLE BOARD	
555	1-676-821-11	FP-160 FLEXIBLE BOARD	
556	1-500-226-31	BEAD, FERRITE	
558	1-676-820-11	FP-159 FLEXIBLE BOARD	
565	1-418-799-11	SWITCH BLOCK, CONTROL (FK-10000) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/ TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P/TRV525/TRV620E/ TRV720/TRV720E)	
565	1-418-799-21	SWITCH BLOCK, CONTROL (FK-10000) (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
760	1-658-213-11	FP-355 FLEXIBLE BOARD	
762	1-657-786-13	FP-221 FLEXIBLE BOARD	
764	1-658-214-11	FP-356 FLEXIBLE BOARD	
803	1-657-785-11	FP-248 FLEXIBLE BOARD	
817	1-657-784-11	FP-220 FLEXIBLE BOARD	
BT901	1-694-384-11	TERMINAL BOARD, BATTERY	
D001	8-719-988-42	DIODE GL453	

(Note) Be sure to read “Precuations for Replcement of CCD Imager” on page 4-8, 4-10 when changing the CCD imager

Ref. No.	Part No.	Description	Remark
IC101	A-7030-821-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320/TRV320P/TRV520/TRV520P/TRV525/TRV720) (Note)	
IC151	A-7031-072-A	CCD BLOCK ASSY (CCD IMAGER) (TRV320E/TRV420E/TRV520E/TRV620E/TRV720E) (Note)	
LCD901	1-803-852-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 61K)	
LCD901	1-803-853-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE S 123K)	
LCD901	1-803-854-21	INDICATOR MODULE, LIQUID CRYSTAL (3 LCD TYPE S)	
LCD901	1-803-855-21	INDICATOR MODULE, LIQUID CRYSTAL (3.5 LCD TYPE S)	
LCD901	1-803-859-21	INDICATOR MODULE, LIQUID CRYSTAL (2.5 LCD TYPE C 61K)	
LCD901	1-803-861-21	INDICATOR MODULE, LIQUID CRYSTAL (3.5 LCD TYPE C)	
LCD901	1-803-863-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE C)	
LCD901	1-803-893-21	INDICATOR MODULE, LIQUID CRYSTAL (4 LCD TYPE S)	
LCD903	8-753-026-74	LCX032AK-1 (TRV525/TRV620E/TRV720/TRV720E)	
LCD903	8-753-026-76	LCX032AL-5 (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP)	
⚠LED901	1-517-866-11	LIGHT, BACK	
M901	A-7048-938-A	DRUM BLOCK ASSY (DKH-02A-R)	
M902	8-835-531-32	MOTOR, DC SCE-0601A/C-NP (CAPSTAN)	
M903	X-3945-401-1	MOTOR ASSY, DC (LOADING)	
M905	1-763-472-11	MOTOR, STEPPING (F680) (FOCUS)	
M906	1-763-471-11	MOTOR, STEPPING (Z680) (ZOOM)	
MIC5802	1-542-312-11	MICROPHONE (L)	
MIC5803	1-542-312-11	MICROPHONE (R)	
⚠ND901	1-517-751-11	TUBE, FLUORESCENT, COLD CATHODE (2.5 LCD model) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P)	
⚠ND901	1-517-751-21	TUBE, FLUORESCENT, COLD CATHODE (2.5 LCD model) (TRV320E: AEP, UK, EE, NE, RU)	
⚠ND901	1-517-852-21	TUBE, FLUORESCENT, COLD CATHODE (4 LCD model) (TRV720/TRV720E)	
⚠ND901	1-517-855-21	TUBE, FLUORESCENT, COLD CATHODE (3.5 LCD model) (TRV520/TRV520E/TRV520P/TRV620E)	
⚠ND901	1-517-856-21	TUBE, FLUORESCENT, COLD CATHODE (3 LCD model) (TRV420E/TRV525)	
S001	1-692-614-11	SWITCH, PUSH (3 KEY) (Hi8 MP, ME/MP, REC PROOF)	
S002	1-572-688-11	SWITCH, PUSH (1 KEY) (C LOCK)	
S008	1-771-848-11	SWITCH, PUSH (PANEL OPEN/CLOSE)	
S901	1-762-436-15	SWITCH (ENCODER), ROTARY	
SP003	1-529-590-11	SPEAKER (2.0cm)	
⚠V901	1-452-673-61	CRT ASSY (M01KXX90WB) (TRV320/TRV320E: E, HK, AUS, CN/TRV320P/TRV420E: CN/TRV520/TRV520E: E, HK, AUS, CN, JE/TRV520P)	

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS **********************************	
	1-475-141-61	COMMANDER, REMOTE (RMT-814)	
⚠	1-475-599-11	ADAPTOR, AC (EXCEPT TRV320: KR/TRV520: KR/TRV720: KR)	
⚠	1-475-599-71	ADAPTOR, AC (TRV320: KR/TRV520: KR/TRV720: KR)	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (TRV520: JE/TRV520E: JE)	
⚠	1-569-008-21	ADAPTOR, CONVERSION 2P (TRV320: E, HK/TRV320E: E, HK/TRV320P/TRV520: E, HK/TRV520E: E, HK/TRV520P: E/TRV720: E/TRV720E: E, HK)	
⚠	1-573-291-11	ADAPTOR, CONVERSION 21P (TRV320E: AEP, UK, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV620E/TRV720E: AEP)	
⚠	1-696-819-11	CORD, POWER (TRV320E: AUS/TRV520E: AUS)	
	1-765-080-11	CORD, CONNECTION (AV CONNECTING CABLE 1.5m)	
⚠	1-769-608-11	CORD, POWER (TRV320: E/TRV320E: AEP, EE, NE, RU, E/TRV320P/TRV420E: AEP/TRV520: E/TRV520E: AEP, E/TRV520P: E/TRV620E: AEP/TRV720: E/TRV720E: AEP, E)	
⚠	1-776-985-11	CORD, POWER (TRV320: KR/TRV520: KR/TRV720: KR)	
⚠	1-782-476-11	CORD, POWER (TRV320E: CN/TRV420E: CN/TRV520E: CN/TRV720E: CN)	
⚠	1-783-374-11	CORD, POWER (TRV320: HK/TRV320E: UK, HK/TRV520: HK/TRV520E: HK/TRV620E: UK/TRV720E: HK)	
⚠	1-783-952-11	CORD, POWER (TRV520P: AR)	
⚠	1-790-073-11	CORD, POWER 2P (TRV520: JE/TRV520E: JE)	
⚠	1-790-107-22	CORD, POWER (TRV320: US, CND/TRV520: US/TRV525/TRV720: US, CND)	
	1-792-451-11	CABLE, RS 232C	
	3-058-871-11	MANUAL, INSTRUCTION (ENGLISH) (TRV320: US, CND)	
	3-058-871-21	MANUAL, INSTRUCTION (FRENCH) (TRV320: CND)	
	3-058-871-31	MANUAL, INSTRUCTION (ENGLISH) (TRV320: E, HK/TRV320P)	
	3-058-871-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV320: E/TRV320P)	
	3-058-871-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV320: E, HK)	
	3-058-871-61	MANUAL, INSTRUCTION (ARABIC) (TRV320: E)	
	3-058-871-71	MANUAL, INSTRUCTION (KOREAN) (TRV320: KR)	
	3-058-872-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV320E: AEP, UK)	
	3-058-872-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV320E: AEP)	
	3-058-872-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV320E: AEP, EE, NE, RU)	
	3-058-872-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV320E: EE, NE, RU)	
	3-058-872-51	MANUAL, INSTRUCTION (POLISH, SWEDISH) (TRV320E: AEP)	
	3-058-873-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV320E: E, HK, AUS, CN)	

(Note) Be sure to read “Precuations for Replcement of CCD Imager” on page 4-8, 4-10 when changing the CCD imager

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

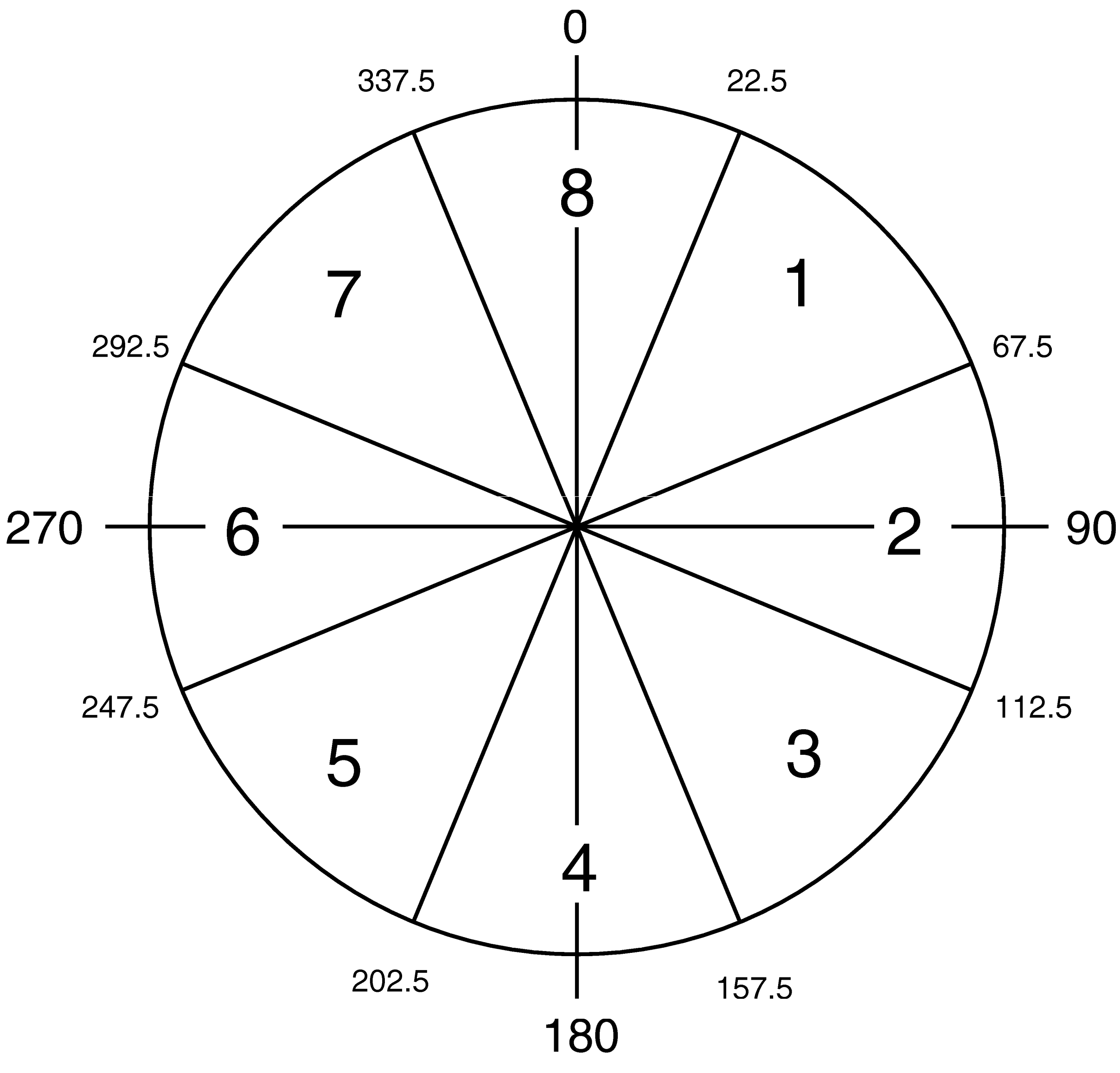
Ref. No.	Part No.	Description	Remark
	3-058-873-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV320E: E)	
	3-058-873-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV320E: E)	
	3-058-873-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV320E: HK)	
	3-058-873-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV320E: E, CN)	
	3-059-561-11	MANUAL, INSTRUCTION (ENGLISH) (TRV520: US/TRV525)	
	3-059-561-21	MANUAL, INSTRUCTION (FRENCH) (TRV525: CND)	
	3-059-561-31	MANUAL, INSTRUCTION (ENGLISH) (TRV520: E, HK, JE/TRV520P: E)	
	3-059-561-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV520: E, JE/TRV520P)	
	3-059-561-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV520: E, HK)	
	3-059-561-61	MANUAL, INSTRUCTION (ARABIC) (TRV520: E)	
	3-059-561-71	MANUAL, INSTRUCTION (KOREAN) (TRV520: KR, JE)	
	3-059-562-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV420E: AEP/TRV520E: AEP/TRV620E)	
	3-059-562-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV420E: AEP/TRV520E: AEP/TRV620E: AEP)	
	3-059-562-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV420E: AEP/TRV520E: AEP/TRV620E: AEP)	
	3-059-562-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV420E: AEP/TRV520E: AEP/TRV620E: AEP)	
	3-059-563-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV420E: CN/TRV520E: E, HK, AUS, CN, JE)	
	3-059-563-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV520E: E, JE)	
	3-059-563-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV520E: E)	
	3-059-563-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV520E: HK)	
	3-059-563-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV420E: CN/TRV520E: E, CN, JE)	
	3-059-564-11	MANUAL, INSTRUCTION (ENGLISH) (TRV720: US, CND)	
	3-059-564-21	MANUAL, INSTRUCTION (FRENCH) (TRV720: CND)	
	3-059-564-31	MANUAL, INSTRUCTION (ENGLISH) (TRV720: E)	
	3-059-564-41	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV720: E)	
	3-059-564-51	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV720: E)	
	3-059-564-61	MANUAL, INSTRUCTION (ARABIC) (TRV720: E)	
	3-059-564-71	MANUAL, INSTRUCTION (KOREAN) (TRV720: KR)	
	3-059-565-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV720E: AEP)	
	3-059-565-21	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (TRV720E: AEP)	
	3-059-565-31	MANUAL, INSTRUCTION (ITALIAN, DUTCH) (TRV720E: AEP)	
	3-059-565-41	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV720E: AEP)	
	3-059-566-11	MANUAL, INSTRUCTION (ENGLISH, RUSSIAN) (TRV720E: E, HK, CN)	
	3-059-566-21	MANUAL, INSTRUCTION (FRENCH, GERMAN) (TRV720E: E)	
	3-059-566-31	MANUAL, INSTRUCTION (ARABIC, PERSIAN) (TRV720E: E)	
	3-059-566-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (TRV720E: HK)	
	3-059-566-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (TRV720E: E, CN)	
	3-060-457-11	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ENGLISH) (TRV320: US, CND, E, HK/TRV320P/TRV520: US, E, HK, JE/TRV520P: E/TRV525/TRV720: US, CND, E)	
	3-060-457-21	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (FRENCH) (TRV320: CND/TRV525: CND/TRV720: CND)	
	3-060-457-31	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (TRADITIONAL CHINESE) (TRV320: E, HK/TRV320E: HK/TRV520: E,HK/TRV520E: HK/TRV720: E/TRV720E: HK)	
	3-060-457-41	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (KOREAN) (TRV320: KR/TRV520: KR, JE/TRV720: KR)	
	3-060-458-11	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ENGLISH, RUSSIAN) (TRV320E: AEP, UK, E, HK, AUS, CN/TRV420E/TRV520E/TRV620E/TRV720E)	
	3-060-458-21	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (FRENCH, GERMAN) (TRV320E: EE, NE, RU, E/TRV420E: AEP/TRV520E: AEP, E, JE/TRV620E: AEP/TRV720E: AEP, E)	
	3-060-458-31	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ITALIAN, DUTCH) (TRV320E: AEP, EE, NE, RU/TRV420E: AEP/TRV520E: AEP/TRV620E: AEP/TRV720E: AEP)	
	3-060-458-41	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (SPANISH, PORTUGUESE) (TRV320: E/TRV320E: AEP/TRV320P/TRV420E: AEP/TRV520: E, JE/TRV520E: AEP/TRV520P/TRV620E: AEP/TRV720: E/TRV720E: AEP)	
	3-060-458-51	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (POLISH, SWEDISH) (TRV320E: AEP)	
	3-060-458-61	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (ARABIC, PERSIAN) (TRV320: E/TRV320E: E/TRV520: E/TRV520E: E/TRV720: E/TRV720E: E)	
	3-060-458-71	MANUAL, INSTRUCTION (Picture Gear 4.1 Lite) (SIMPLIFIED CHINESE) (TRV320E: E, CN/TRV420E: CN/TRV520E: E, CN, JE/TRV720E: E, CN)	
	3-060-476-01	DISK, SYSTEM (Picture Gear 4.1 Lite)	
	3-742-854-01	LID, BATTERY (for RMT-814)	
	3-987-015-01	BELT (S), SHOULDER	
	3-988-960-01	BAG (8500), CARRYING (TRV320P/TRV520P)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠	A-7094-140-A	BATTERY PACK (NP-F330) (TRV320: US, CND/TRV520: US/TRV525/ RV720: US, CND)	
⚠	A-7094-141-A	BATTERY PACK (NP-F330) (TRV320: E, HK, KR/TRV320E/TRV320P/ TRV520: E, HK, KR, JE/TRV520E/TRV520P/ TRV620E/TRV720: E, KR/TRV720E)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

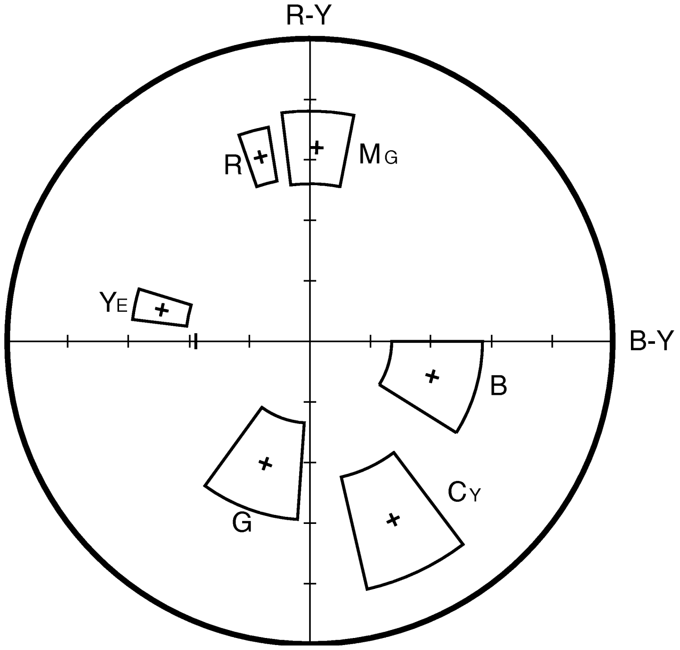
FOR CAMERA OPTICAL AXIS ADJUSTMENT


0
337.5
22.5
8
7
1
292.5
67.5
270
6
2
90
247.5
112.5
5
3
4
202.5
157.5
180

FOR CAMERA COLOR REPRODUCTION ADJUSTMENT

Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts reference sheets with a clear sheet for use.

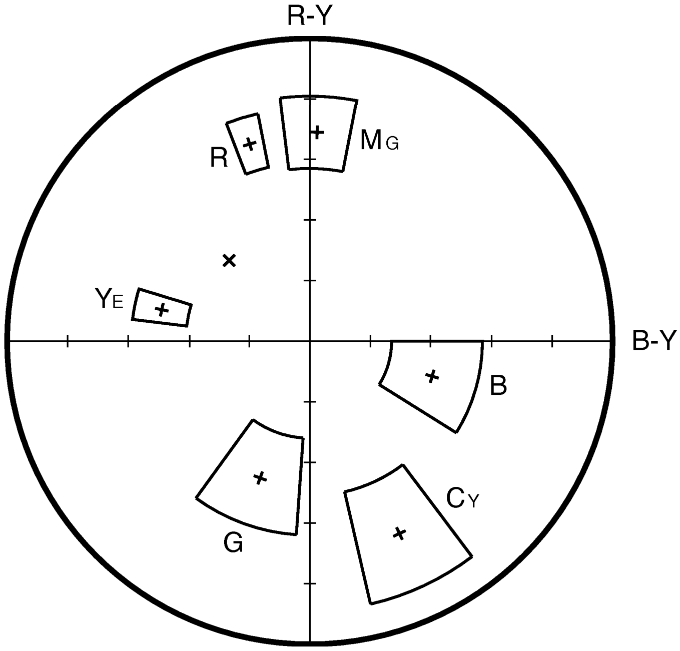
For NTSC 720H model



R-Y
R
MG
YE
B-Y
B
G
CY

DCR-TRV320/TRV320P/TRV520/
TRV520P/TRV525/TRV720

For PAL 960H model



R-Y
R
MG
YE
B-Y
B
G
CY

DCR-TRV320E/TRV420E/TRV520E/
TRV620E/TRV720E

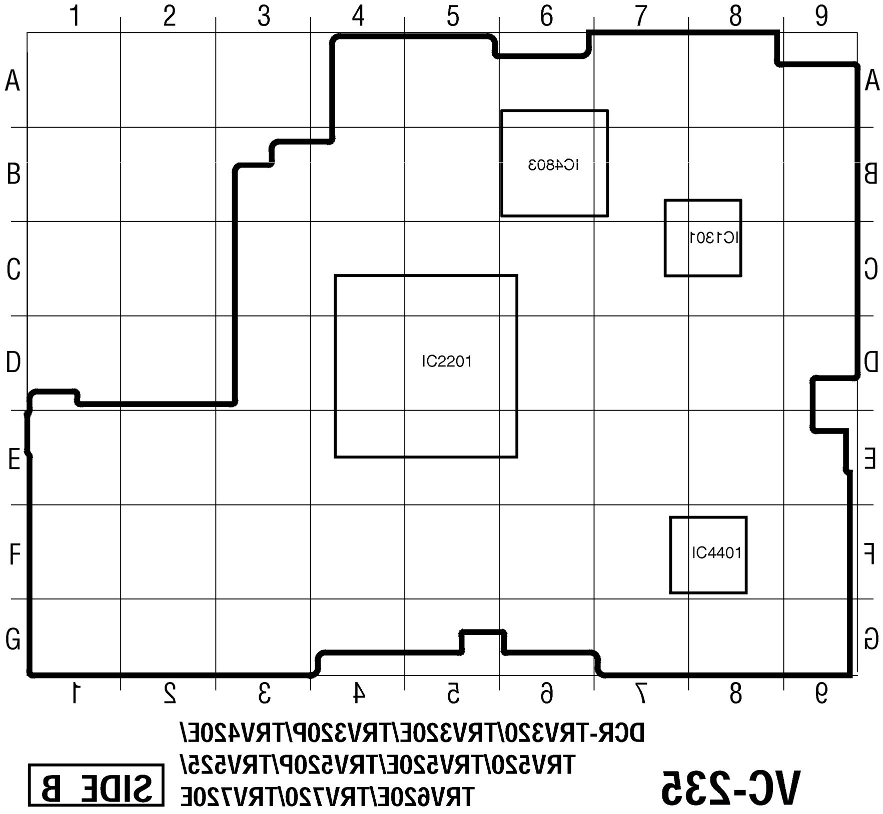
< PARTS REFERENCE SHEET >

You can find the parts position of mount locations applying to VC-235 board of a set.

VC-235

DCR-TRV320/TRV320E/TRV320P/TRV420E/
TRV520/TRV520E/TRV520P/TRV525/
TRV620E/TRV720/TRV720E

SIDE A

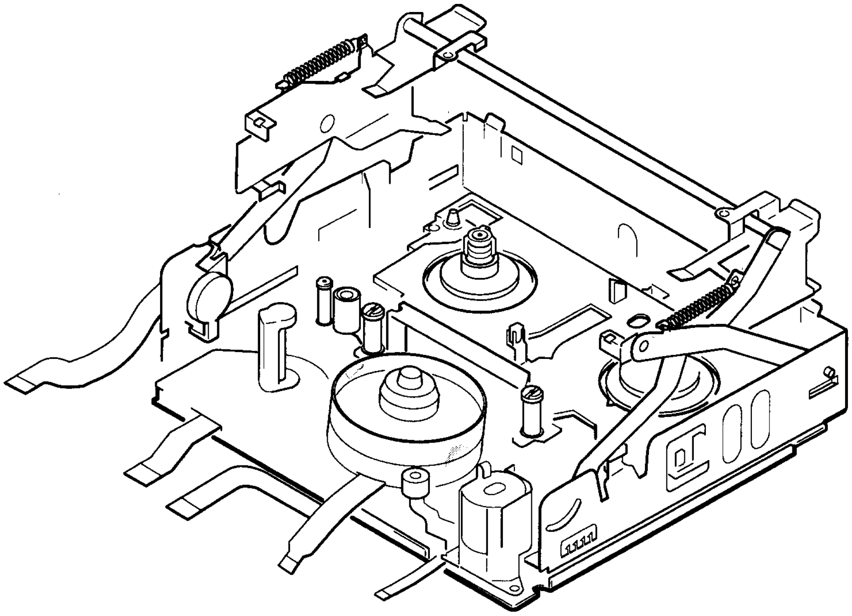

1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
G
IC4803
IC1301
IC2201
IC4401
DCR-TRV320/TRV320E/TRV320P/TRV420E/
TRV520/TRV520E/TRV520P/TRV525/
TRV620E/TRV720/TRV720E
SIDE B
VC-235

8mm Video MECHANICAL ADJUSTMENT MANUAL Ⅶ

B MECHANISM

Video8

Use this mechanical adjustment manual Ⅶ together with the service manual of the respective models.



8 MECHANISM DECK

SONY®

MICROFILM

TABLE OF CONTENTS

1. PREPARATION FOR CHECKING, ADJUSTING AND REPLACING THE MECHANISM

1-1. Cassette Compartment Block Assy ······3
1-2. How to Operate the Mechanism with the Cassette Compartment Block Assy Removed ······4

2. PERIODIC CHECK AND MAINTENANCE ITEMS

2-1. Rotary Drum Assy Cleaning ······5
2-2. Tape Path Cleaning ······5
2-3. Periodic Check Items ······6
2-4. Service Tool List ······7

3. CHECKING, ADJUSTING AND REPLACING THE MECHANISM

3-1. HC Roller Block Assy ······8
3-2. Drum Assy ······9
3-3. Drum Base Block Assy, Shaft Ground ······10
3-4. Gooseneck Retainer, Gooseneck Gear Assy ······11
3-5. LS Chassis Block Assy, Mechanical Chassis Block Assy ······12
3-6. T Reel Table Assy, T Ratchet, T Soft Gear Block Assy ······15
3-7. Tension Regulator Band Assy, TG1 Arm Assy, S Reel Table Assy, S Ratchet, S Ratchet Release Plate, RVS Arm ······16
3-8. Pinch Arm Assy, TG4 Arm Block Assy ······17
3-9. LS Cam Plate, LS Guide Cover, Lid Opener, EJ Arm, Lock Guide ······18
3-10. Guide Base (S) and (T) Block Assemblies, Guide Rail ······19
3-11. DC Motor Assy (Loading) ······21
3-12. Tension Regulator Plate 2, Relay Gear, M Slider Assy ······22
3-13. LS Arm, HC Drive Arm, Pinch Press Plate, Tension Regulator Plate ······23
3-14. Cam Gear ······24
3-15. GL Slider Assy, GL Arm ······25
3-16. Rotary Switch ······26
3-17. Capstan Motor ······27
3-18. Tension Regulator Position Adjustment ······28
3-19. FWD Tape Hold -Back Tension Adjustment ······29

4. TAPE PATH ADJUSTMENT

4-1. Preparations for Adjustment ······30
4-2. Tracking Adjustment ······31
4-3. No. 4 Guide (TG-4) Adjustment ······31
4-4. CUE, REV Waveforms Check ······32
4-5. Checks After Adjustments ······32

5. EXPLODED VIEWS

5-1. Cassette Compartment Block Section ······34
5-2. LS Chassis Block Section ······35
5-3. Mechanism Chassis Block Section ······36

6. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM ······37

7. ELECTRICAL PARTS LIST ······38

For the mode selector operation, schematic diagram and parts list, refer to the Supplement-1 Manual.

1. PREPARATION FOR CHECKING, ADJUSTING AND REPLACING THE MECHANISM

For the disassembly procedures of the cabinet and printed wiring boards, please refer to the "DISASSEMBLY" section of the service manual of the respective models.
To re-assemble the mechanical parts which are disassembled in the following sections, perform the disassembly steps in reverse, unless otherwise specified.
The mechanisms are adjusted while set in the USE mode of operation. (Refer to the "Mode Selector Operation Procedure of the Supplement-1 Manual for how to enter the USE mode.)

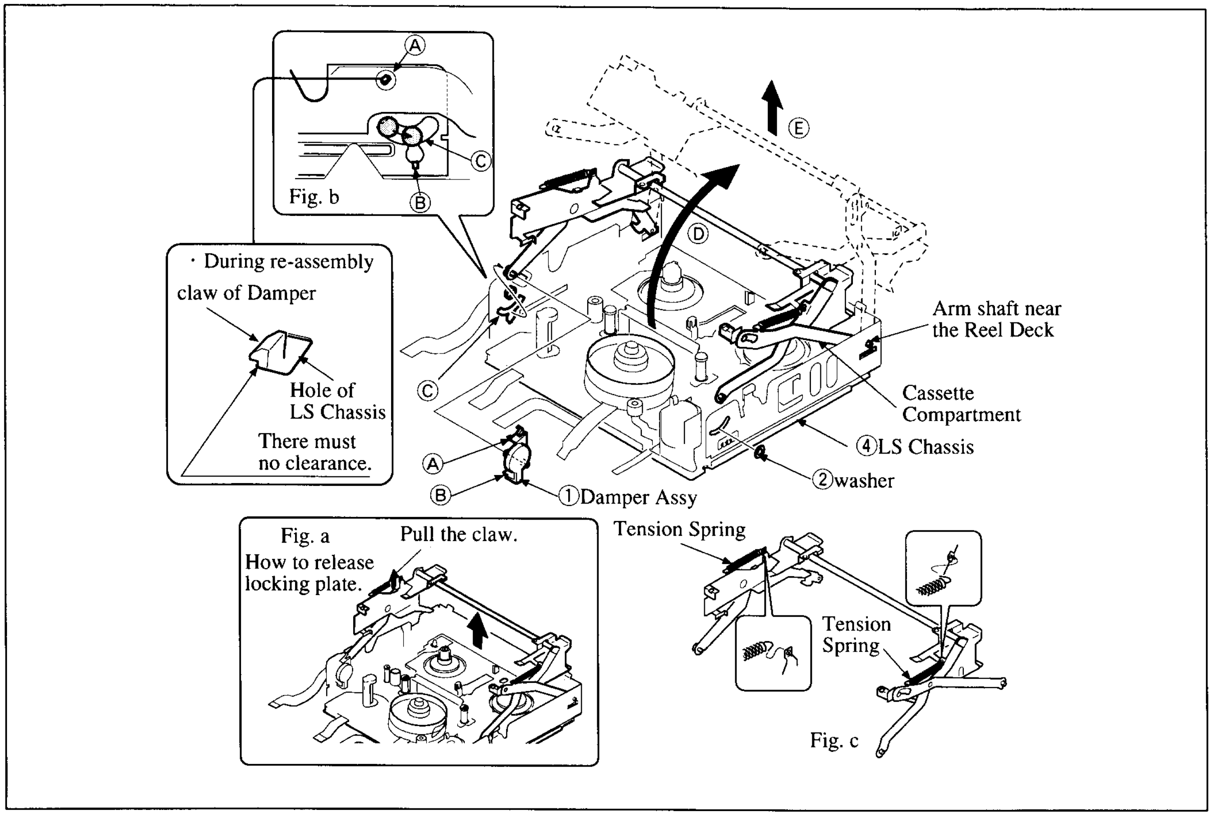
1-1. Cassette Compartment Block Assy

1. Disassembly Procedure (Refer to Fig. 1.)

1) Set the mechanism to USE mode.
2) Confirm that the Cassette Compartment Block Assy is opened. If it is not opened, open it referring to Fig. a.
3) Remove the claws Ⓐ and Ⓑ of the Damper Assy ① from the chassis.
4) Remove the washer ② from the shaft of the Cassette Compartment near the Drum, next to the loading motor. Remove the shaft of the arm from the slot.
5) Remove the shaft of the arm from the slot Ⓒ of the Cassette Compartment near the Drum, next to the capstan motor. (Refer to Fig. b)
6) Lift up the Cassette Compartment at the Drum side in the direction of the arrow Ⓓ, and remove the arm shaft of the Cassette Compartment from the LS Chassis ④ near the Reel Tables. Remove the Cassette Compartment Assy ③ in the direction of the arrow Ⓔ.

2. Precautions During Re-Assembling

1) After attaching the Tension Spring, confirm that the straight portion at the end of the curved hook of the spring is positioned inside the mechanism. (Refer to Fig. c)
2) Confirm that the claw in the bottom of the shaft near the Reel Table of the Cassette Compartment is hooked to the LS Chassis.
3) Confirm that the claw of the Damper Assy is hooked to the LS Chassis. (Refer to Fig. b)



Ⓐ
Ⓒ
Fig. b
Ⓑ
Ⓔ
Ⓓ
· During re-assembly claw of Damper
Hole of LS Chassis
There must no clearance.
Arm shaft near the Reel Deck
Cassette Compartment
④LS Chassis
②washer
Ⓒ
Ⓐ
Ⓑ
①Damper Assy
Fig. a
Pull the claw.
How to release locking plate.
Tension Spring
Tension Spring
Fig. c

Fig. 1

1-2. How to Operate the Mechanism with the Cassette Compartment Block Assy Removed

1. How to load a cassette tape (Refer to Fig. 2):

1) While referring to section "DISASSEMBLY" of the respective service manual, turn the main power on with the cabinet and camera section removed. (It enables to operate the mechanical deck.)
2) Connect the adjustment remote commander (Ref. No. J-10) and establish the TEST mode.

> Example of establishing the TEST mode: model CCD-TR420E/TR440E.
> Select page: 6, address: 00, set data :01 and press the PAUSE button to release protection.
> Select page: 7, address: 01, set data: 01 and press the PAUSE button.
> After tape loading or other desired operations of mechanism are completed, be sure to perform the following:
> Select page: F, address: 01, set data :00 and press the PAUSE button.
> Select page: 6, address: 00, set data: 00 and press the PAUSE button.

3) Press the push-switch ① knob in the direction of the arrow which sets the machine into loading mode.

☆ PB, FF/REW and CUE/REV operations are possible.

2. How to establish RECORD mode:

1) Press pin of the push-switch ② (ON state) and keep the ON state by fixing with adhesive tape ③.
2) Turn the main power switch ON (select VTR or CAMERA position of in case of camera).
3) Set the RECORD switch to ON.
   (When the TEST mode is selected, the rotation detection of the S and T reel tables is muted, and the top end sensor is disable which allow to run the tape.)

3. How to eject a cassette tape:

1) Press the EJECT switch to ON.

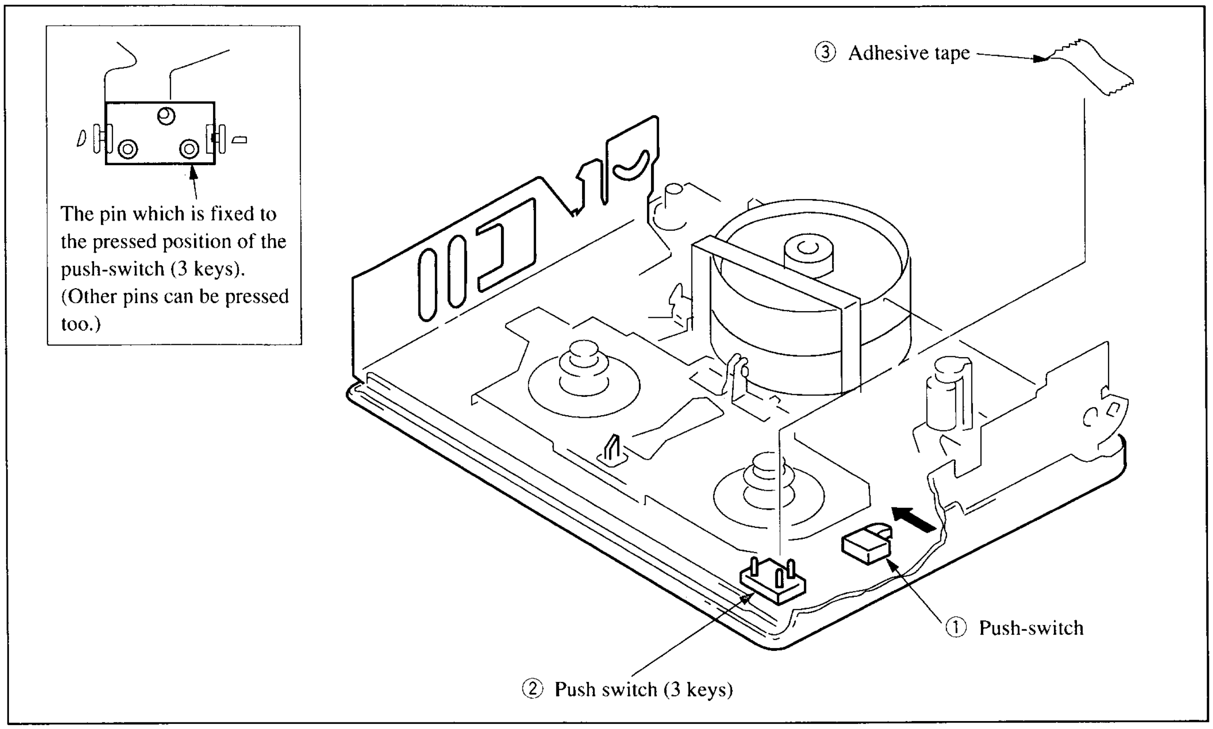

The pin which is fixed to the pressed position of the push-switch (3 keys). (Other pins can be pressed too.)
③ Adhesive tape
① Push-switch
② Push switch (3 keys)

Fig. 2

2. PERIODIC CHECK AND MAINTENANCE ITEMS

- Perform the following periodic check and maintenance to ensure that the machine functions continue to operate in peak condition, and to protect the tape and mechanism deck. After completing repair work, perform the following maintenance items regardless of how long the user's machine has been used.

2-1. Rotary Drum Assy Cleaning

Press the cleaning piece (Ref. No. J-2) moistened with cleaning fluid (Ref. No. J-1) lightly on the Rotary Drum Assy. Gently turn the Rotary Drum Assy slowly by hand counter-clockwise to clean the rotary drum.

Caution: Never attempt to turn the head drum motor by turning the main power ON. Also, never turn the drum clockwise by hand. In addition, never move the cleaning piece vertically with respect to the head tips, since this will damage them. Never clean the head drum in any way other than as described above.

2-2. Tape Path Cleaning (Refer to Fig. 3.)

1) Set the mechanism to USE mode. Clean the tape path system (TG-1, TG-2, TG-3, TG-4, pinch roller, capstan shaft) and lower drum using a very thin cotton swab (Ref. No. J-3) moistened with cleaning fluid.

Caution: Take care that the very thin cotton swab (Ref. No. J-3) does not touch the oil or grease of the various link mechanisms.

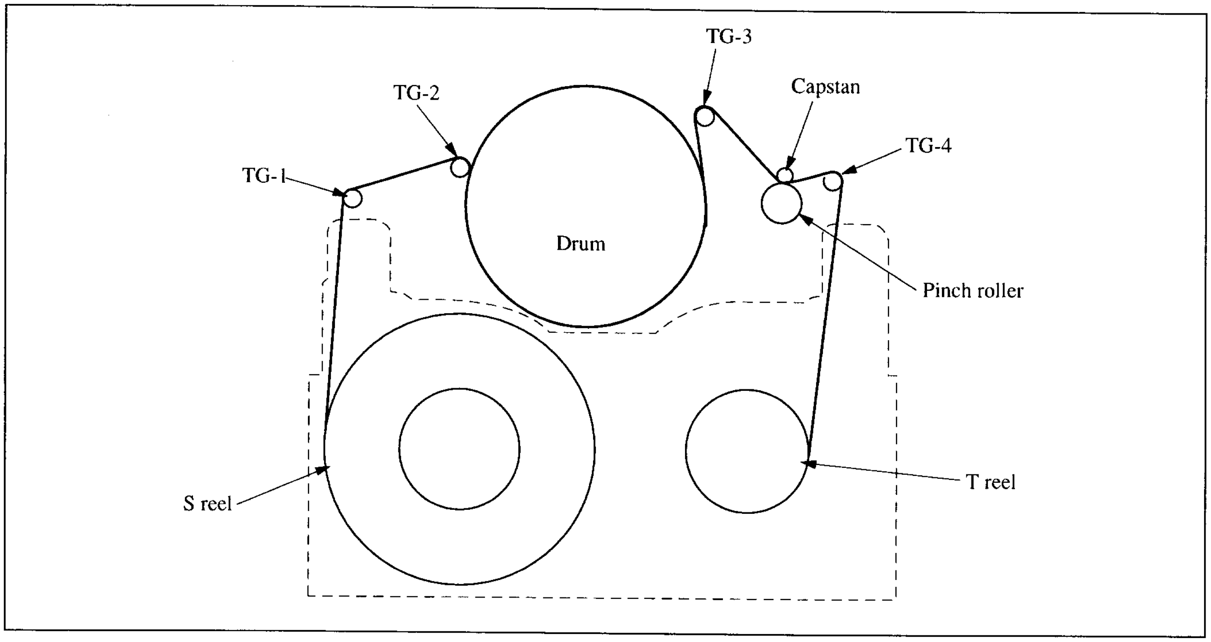


Fig. 3

2-3. Periodic Check Items

	Maintenance and Inspection Points	Operating Hours										Remarks
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000	
	Cleaning of tape running surface	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
	Cleaning and degaussing of Rotary Drum Assy	○	○	○	○	○	○	○	○	○	○	Take care not to get oily.
Drive System	Timing Belt	—	☆	—	☆	—	☆	—	☆	—	☆	3-965-546-01
	Capstan Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	Take great care not to let any oil contact the tape running surface.
	Change Gear Shaft Relay Pulley Shaft	—	◎	—	◎	—	◎	—	◎	—	◎	
	Loading Motor	—	☆	—	☆	—	☆	—	☆	—	☆	X-3945-401-1
Performance Check	Abnormal Sound	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	
	Tape Hold-back Tension Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	
	Brake System	—	☆	—	☆	—	☆	—	☆	—	☆	
	FWD } Torque RVS } Measurement	—	☆	—	☆	—	☆	—	☆	—	☆	

○Cleaning ◎Lubrication ☆Check

Note: When overhauling the machine, replace the parts while referring to the above table.

Note: Regarding oil

- Be sure to use the specified oil. (If the viscosity and other characteristics are different, various troubles may arise.)
  Oil: Sony part No. 7-661-018-18
  (Mitsubishi diamond oil hydro fluid NT-68)
- For the oil lubricated bearings, use oil free from dust or foreign materials. If the oil contains any dust or foreign material, the bearings will wear out quickly or burn out.
- One drop of oil is the amount of oil which forms at the tip of a stick of 2 mm diameter.

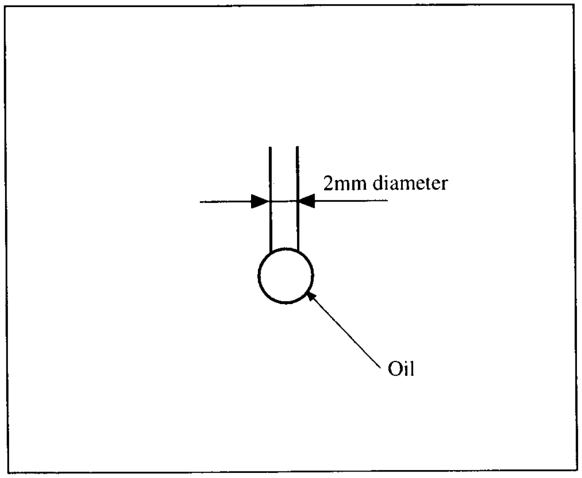


Fig. 4

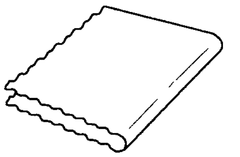
2-4. Service Tool List

Ref. No.	Name	Parts Code	Tool Stamp	Applications
J-1	Cleaning fluid	Y-2031-001-0	—	
J-2	Cleaning piece	2-034-697-00	—	
J-3	Very thin cotton swab (made by Nippon Cotton Swab Inc. (P752D))		—	
J-4	Head demagnetizer	Commercially available	—	
J-5	Dental mirror Spare mirror	J-6080-029-A J-6080-030-1	SL-5052	Tape path
J-6	Alignment tape (NTSC : WR5-1NP) Alignment tape (PAL : WR5-1CP)	8-967-995-02 8-967-995-07	—	Tape path
J-7	FWD/RVS take-up torque cassette	J-6080-824A	GD-2086	
J-8	Screwdriver for tape path adjustment	J-6082-026-A	—	For tape guide adjustment
J-9	FWD/BACK tension adjustment screwdriver	J-6082-187-A	—	
J-10	Remote commander for adjustment	J-6082-053-B	—	Tape path (Setting PATH mode)
J-11	MD process table	J-6082-166-A	—	
J-12	FLOIL Grease SG-941	7-662-001-39	—	
J-13	FLOIL Grease SG-055G	7-651-000-09	—	

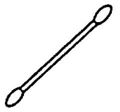
Other equipment
- Oscilloscope
- Analog circuit tester (input impedance 20 kΩ)

J-1

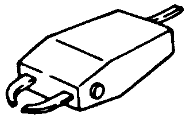
J-2



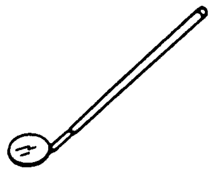
J-3



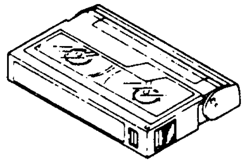
J-4



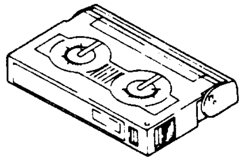
J-5



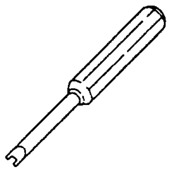
J-6



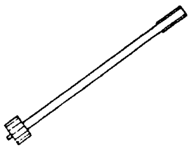
J-7



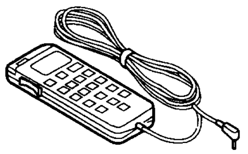
J-8



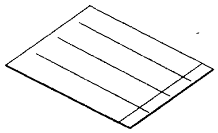
J-9



J-10

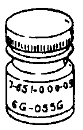


J-11



J-12

J-13



3. CHECKING, ADJUSTING AND REPLACING THE MECHANISM

3-1. HC Roller Block Assy (Refer to Fig. 5)

1. Disassembly Procedure

1) Remove the Torsion Spring ① from the cut-out Ⓐ of the motor holder. Hook it to the claw Ⓑ of the HC Arm.
2) Remove the HC Roller Block Assy in the direction shown by Ⓒ.
3) Remove the stop washer ② and remove the HC Roller Block Assy ③.

2. Precautions During Re-Assembly

1) After attaching the HC Roller Block Assy, confirm that both ends of the torsion spring are hooked to Ⓐ and Ⓓ.
2) Align the block so that the cut-out Ⓔ agrees with the rib Ⓕ.

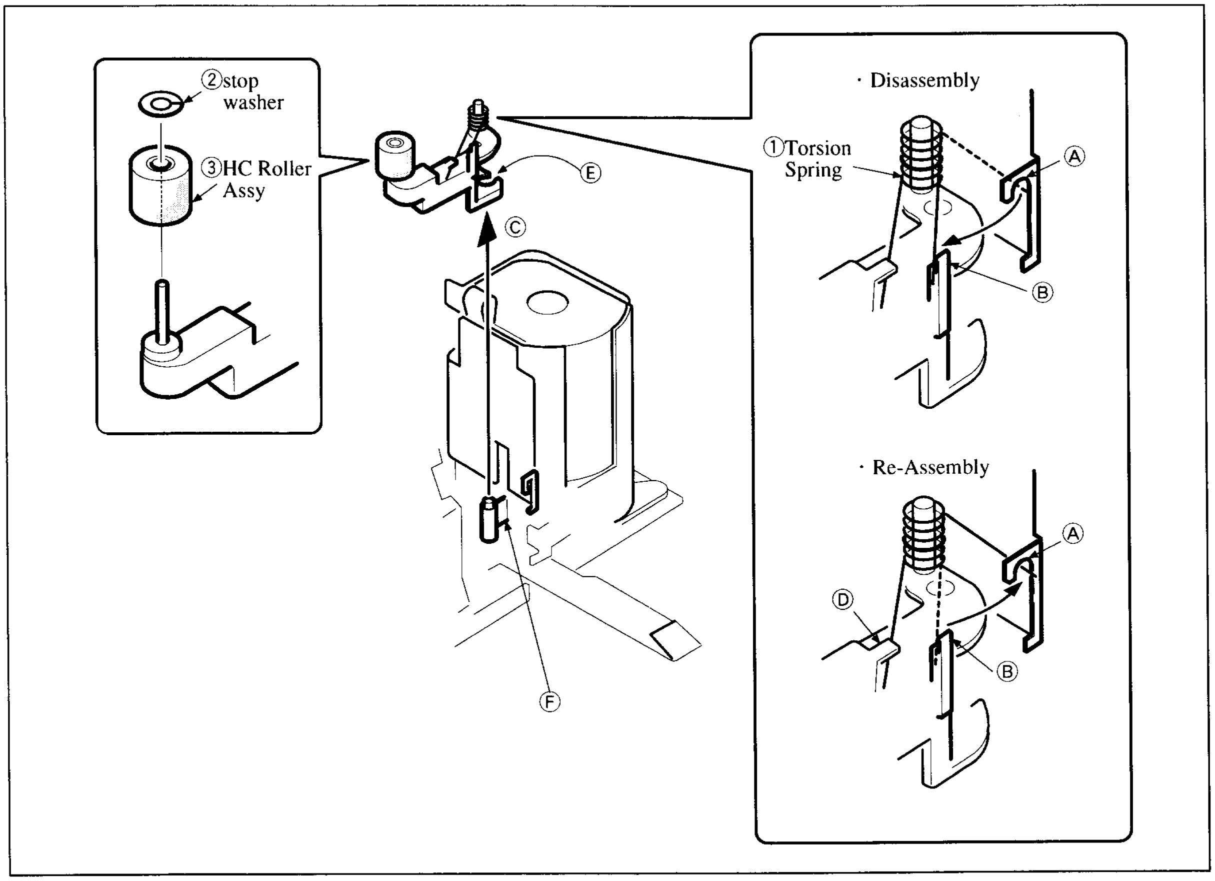

②stop washer
③HC Roller Assy
Ⓔ
Ⓒ
Ⓕ
· Disassembly
①Torsion Spring
Ⓐ
Ⓑ
· Re-Assembly
Ⓓ
Ⓐ
Ⓑ

Fig. 5

3-2. Drum Assy (Refer to Fig. 6)

1. Disassembly Procedure

1) Set the mechanism to USE mode.
2) Remove the three screws (M 1.4) ① and remove the Drum Assy ②.

Caution: Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)

2. Precautions During Re-Assembly

1) Be careful not to touch the outer circumference of the drum. (Hold the portions Ⓐ and Ⓑ of the drum assy.)
2) When tightening the three screws (M 1.4), tighten them in the order Ⓒ, then Ⓓ, then Ⓔ.
3) After attaching the Drum Assy, perform the steps in section "4. TAPE PATH ADJUSTMENT".

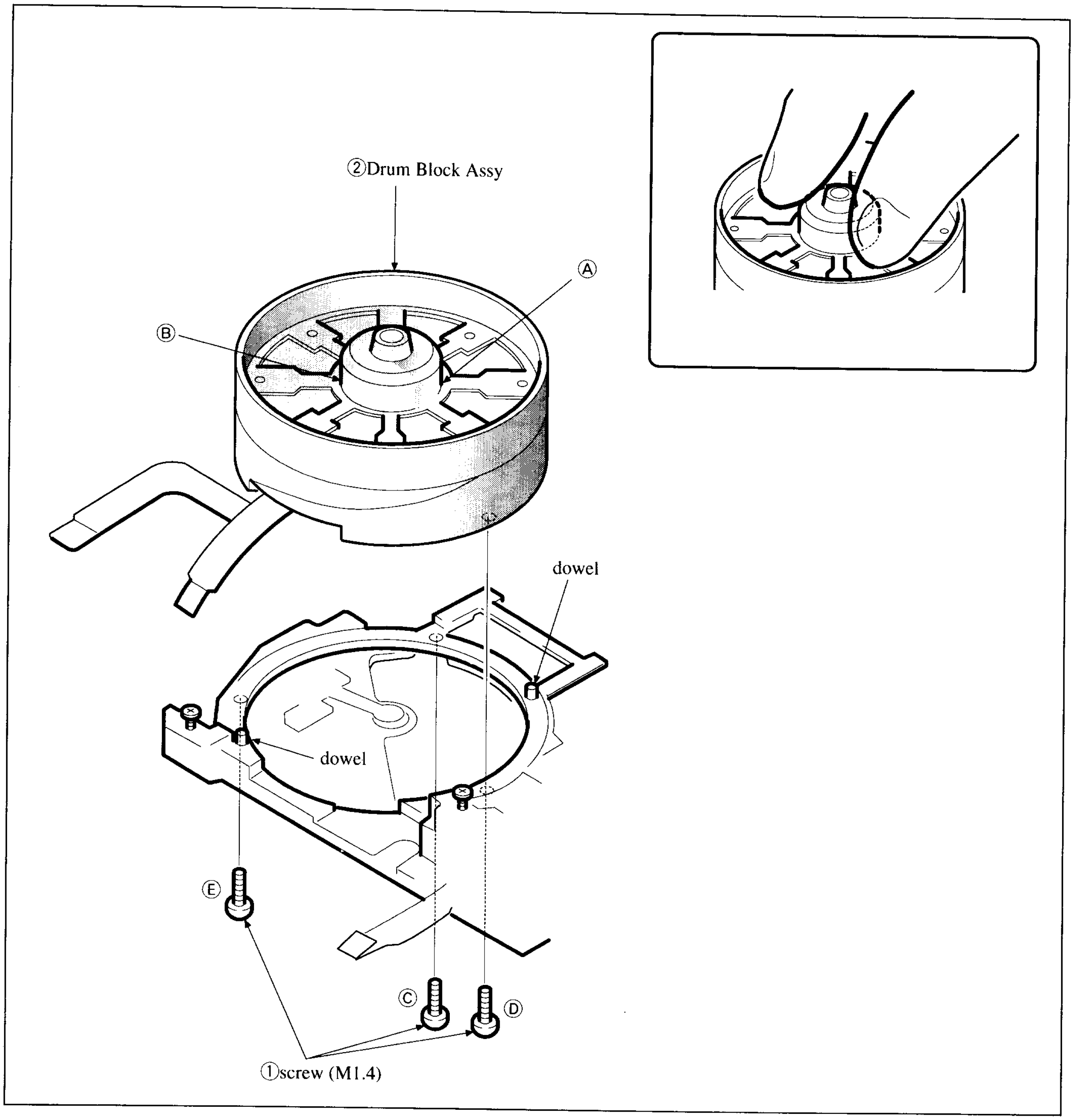


Fig. 6

3-3. Drum Base Block Assy, Shaft Ground (Refer to Fig. 7)

1. Disassembly Procedure

1) Remove the Drum Assy referring to section 3-2.
2) Remove the three screws (M 1.4×2.5) ① and remove the Drum Base Block Assy ②.
3) Remove the screw (M 1.7×1.4) ③ and remove the Shaft Ground ④.

Caution 1: Do not hold the spring portion of the Shaft Ground ④.

Caution 2: The loading motor can be removed while the mechanism is in this state. However, do not move any other mechanical parts (especially gears and cams around the rotary switch) when removing the loading motor. (Refer to 3-11.)

2. Precautions During Re-Assembly

1) Do not touch the spring portion of the Shaft Ground ④.
2) When tightening the three screws (M 1.4×2.5), tighten them in the order of Ⓐ, then Ⓑ, then Ⓒ.
3) After re-assembly is completed, perform the steps in section "4. TAPE PATH ADJUSTMENT".

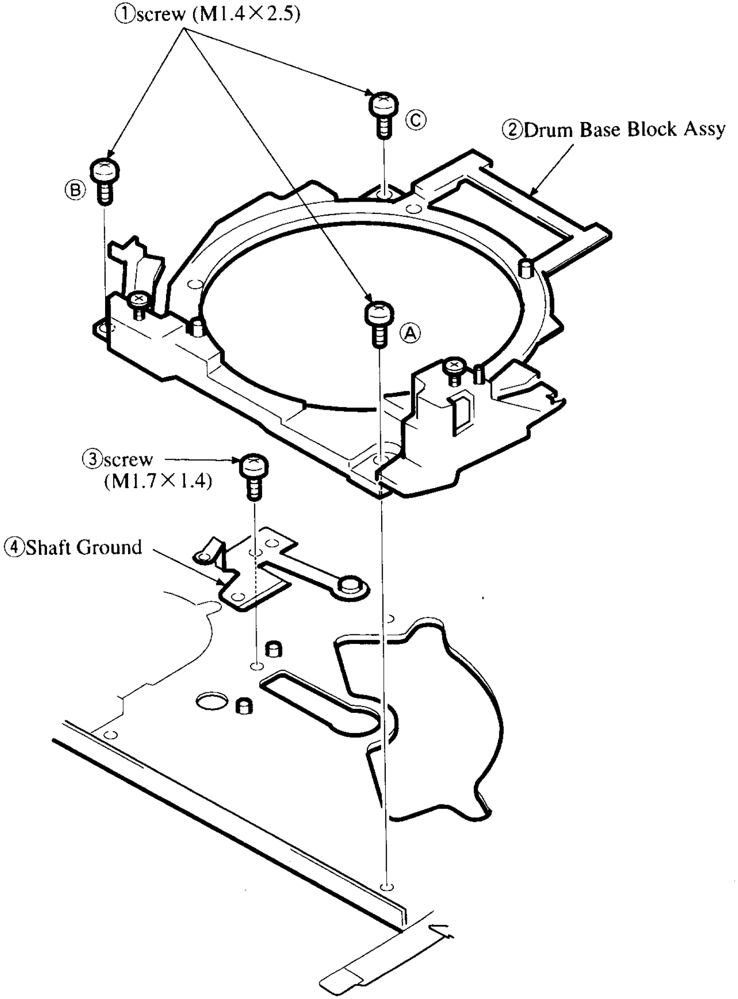


Fig. 7

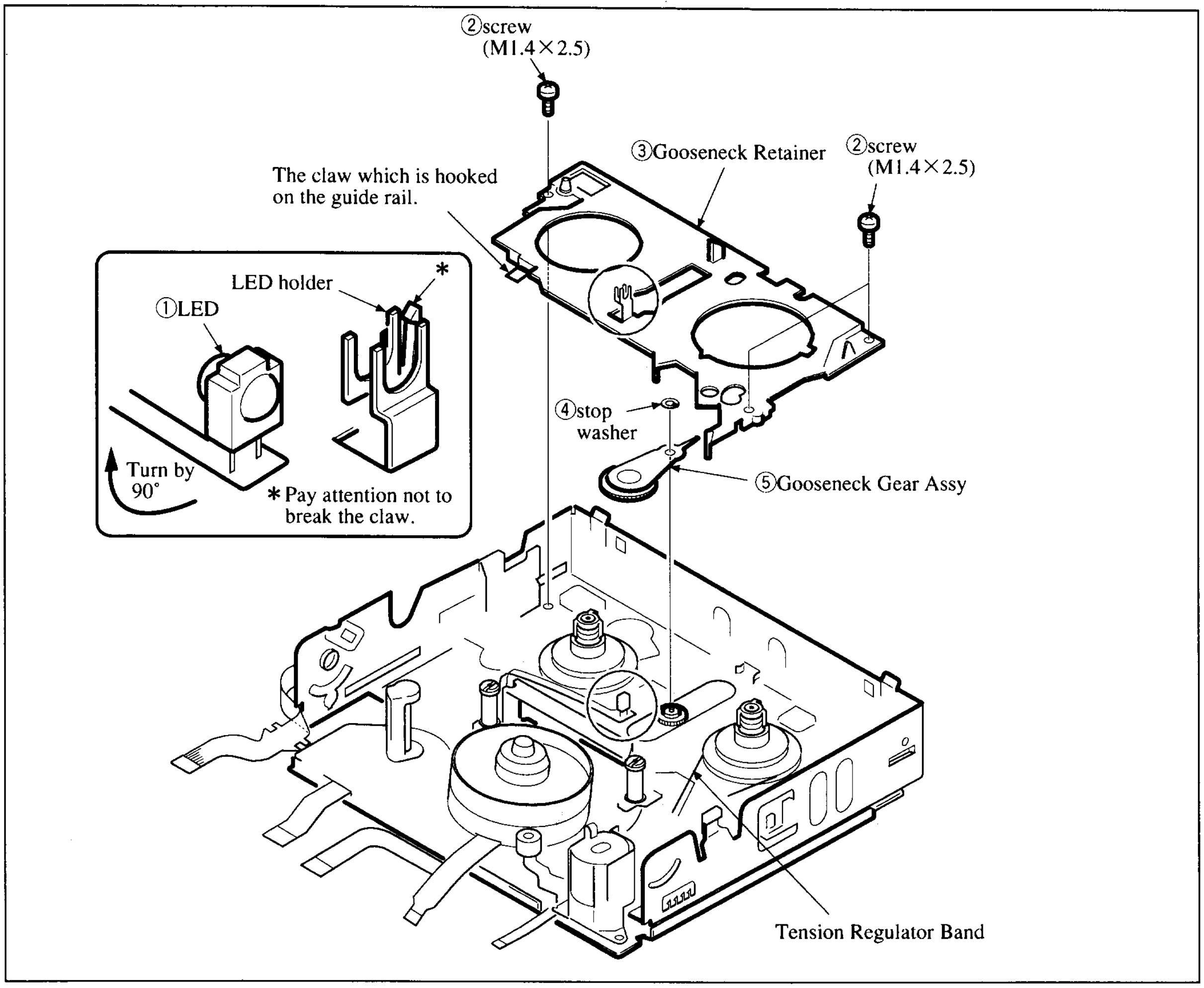
3-4. Gooseneck Retainer, Gooseneck Gear Assy (Refer to Fig. 8)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the LED ① from the LED holder of the Gooseneck Retainer ③.
(Turn the flexible board 90° outside and remove it upward.)
3) Remove the three screws (M 1.4×2.5) ② and remove the Gooseneck Retainer ③.
4) Remove the stop washer ④ and remove the Gooseneck Gear Assy ⑤.

2. Precautions During Re-Assembly

1) When attaching the Gooseneck Retainer ③, take care that the Gooseneck Retainer ③ does not collide with the tension regulator band. (The tension regulator band must be located inside.)
2) Hook the T-side claw on the guide.



②screw
(M1.4×2.5)
③Gooseneck Retainer
②screw
(M1.4×2.5)
The claw which is hooked on the guide rail.
LED holder
*
①LED
Turn by 90°
* Pay attention not to break the claw.
④stop washer
⑤Gooseneck Gear Assy
Tension Regulator Band

Fig. 8

3-5. LS Chassis Block Assy, Mechanical Chassis Block Assy (Refer to Fig. 9)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the FP-221 flexible board ① from the flexible board holder.
4) Remove the stop ring E1.5 ②.
5) Remove the two screws (M 1.4×2.5) ③ and remove the LS Chassis Block Assy ④ from the Mechanical Chassis Block ⑤ in the direction of the arrow Ⓐ.

Note: The Tension Regulator Plate (2) can easily fall into the Mechanical Chassis Block Assy. Take care not to drop it.

2. Precautions During Re-Assembly

1) Before attaching the LS Chassis Block Assy, confirm that the respective phase-determining holes have been adjusted for correct phase. Also confirm that the specified locations of the Mechanical Chassis Block Assy and the LS Chassis Block Assy are coated with grease SG-055G (Ref. No. J-13). (Refer to Fig. a)
2) When attaching the LS Chassis Block Assy, insert the LS Cam Plate (on the LS chassis side) into the dowel (on the mechanical chassis side). Also insert the TG1 Cam Axis (on the LS chassis side) into the Tension Regulator Plate (2) (on the mechanical chassis side).
3) When attaching these block assemblies, attach them while pressing the TG-1 Arm Assy in the direction toward the TG-2 Guide. (Refer to Fig. b)
4) Pay attention that the TG-1 Arm is not floated.

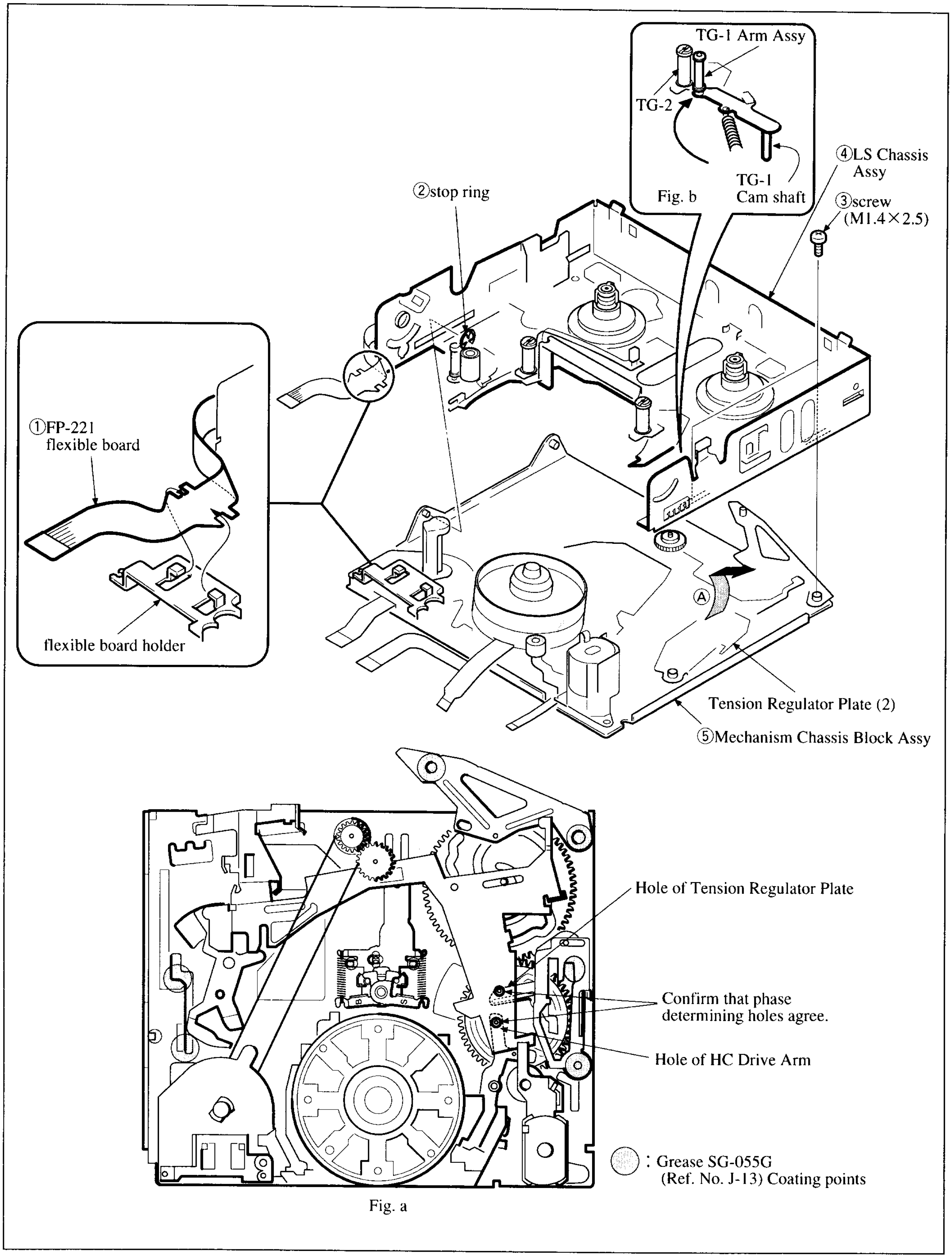

TG-1 Arm Assy
TG-2
TG-1
Cam shaft
Fig. b
④LS Chassis
Assy
③screw
(M1.4×2.5)
②stop ring
①FP-221
flexible board
flexible board holder
Ⓐ
Tension Regulator Plate (2)
⑤Mechanism Chassis Block Assy
Hole of Tension Regulator Plate
Confirm that phase
determining holes agree.
Hole of HC Drive Arm
▨ : Grease SG-055G
(Ref. No. J-13) Coating points
Fig. a

Fig. 9

- **PARTS CONSTITUTING THE LS CHASSIS.**

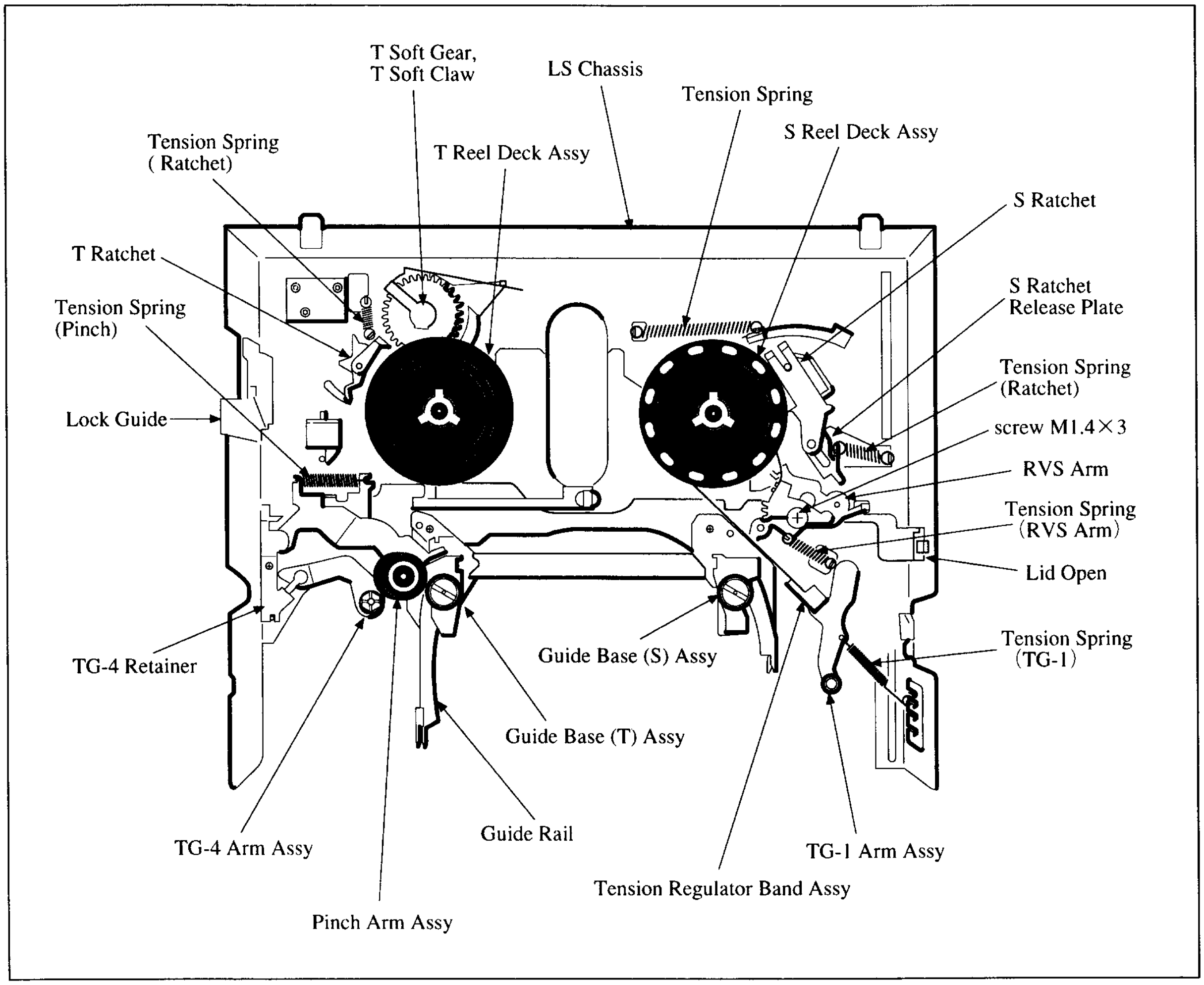

T Soft Gear,
T Soft Claw
LS Chassis
Tension Spring
S Reel Deck Assy
Tension Spring
(Ratchet)
T Reel Deck Assy
S Ratchet
T Ratchet
S Ratchet
Release Plate
Tension Spring
(Pinch)
Tension Spring
(Ratchet)
Lock Guide
screw M1.4×3
RVS Arm
Tension Spring
(RVS Arm)
Lid Open
Tension Spring
(TG-1)
TG-4 Retainer
Guide Base (S) Assy
Guide Base (T) Assy
Guide Rail
TG-4 Arm Assy
TG-1 Arm Assy
Tension Regulator Band Assy
Pinch Arm Assy

Fig. 10

3-6. T Reel Table Assy, T Ratchet, T Soft Gear Block Assy (Refer to Fig. 11)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the claw of the T Reel Deck Assy ① from the chassis and remove the T Reel Deck Assy from its shaft.
4) Remove the Tension Spring (Ratchet) ② from the LS Chassis and turn the T Ratchet ③ in the direction of the arrow Ⓐ and remove it .
5) Turn the T Soft Gear Block Assy ④ in the direction of the arrow Ⓑ and remove it .

2. Precautions During Re-Assembly

1) Confirm that the protrusions of both the T Soft Gear Block Assy and T Ratchet are securely locked to the LS Chassis.
2) Be careful not to deform the claw.

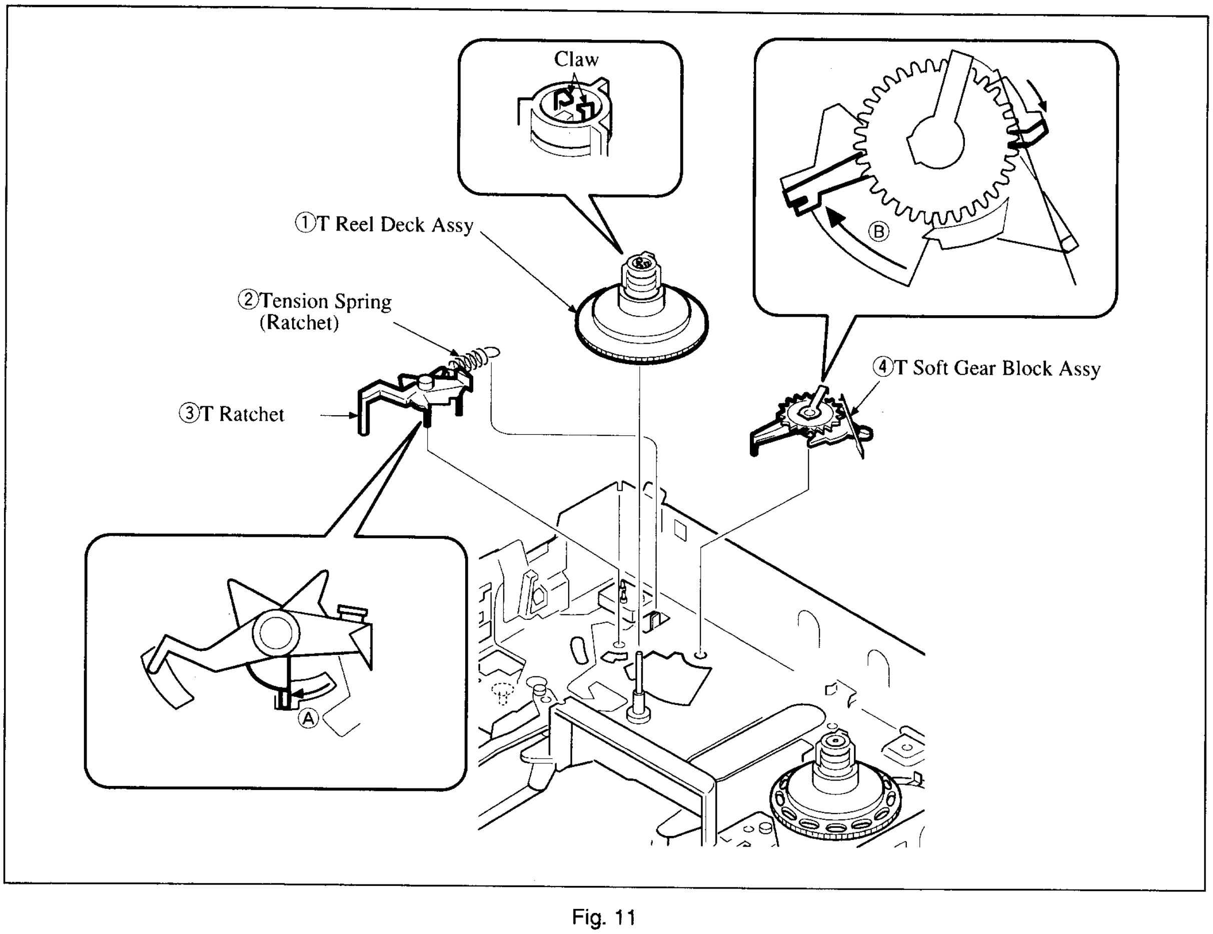


Fig. 11

3-7. Tension Regulator Band Assy, TG1 Arm Assy, S Reel Table Assy, S Ratchet, S Ratchet Release Plate, RVS Arm (Refer to Fig. 12)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the Tension Spring (TG1) ① from the LS Chassis.
4) Remove the screw (M 1.4×3) ② and remove the Tension Adjustment Block of the Tension Regulator Band Assy ④ form RVS Arm.
5) Release the S Ratchet ⑥ in the direction of the arrow Ⓐ and remove the Tension Regulator Band (while taking care not to bend the band) from the S Reel.
6) Remove the TG1 Arm Assy ③ from the LS Chassis, then remove the claw of the Tension Regulator Band Assy ④. (Refer to Fig. a)
7) Remove the claw of the S Reel Deck Assy ⑤ from the chassis and remove the S Reel Deck Assy from its shaft.
8) Remove the S Ratchet ⑥. (Because it is press-fitted, insert tip of screwdriver into the center of rotation and remove it.
9) Remove the Tension Spring (ratchet) ⑦ from the LS Chassis and remove the S Ratchet Release Plate ⑧.
10) Remove the Tension Spring ⑨ from the LS Chassis and remove the RVS Arm ⑩ by turning it..

2. Precautions During Re-Assembly

1) Confirm that the dowel of the S Ratchet Release Plate is inserted into the groove of the S ratchet and confirm that the center of the ratchet is press-fitted into bottom of the shaft. (It can be used again.)
2) When attaching the Tension Regulator Band Assy, take care not to bend it.
3) Pay attention that oil or grease is not spit on the surface of the Tension Regulated Band. (Pay attention also not to touch it with hand directly.)
4) Confirm that the tension regulator band is correctly inserted into the groove of the S Reel Deck Assy ⑤. (Refer to Fig. b)
5) When securing the Tension Adjustment Block using the screw, press it toward the position which gives the least tension, then tighten the fixing screw.
6) Before attaching the TG1 Arm Assy, coat the LS Chassis TG1 boss with oil (1/2 drop).
7) Do not touch the tape guide of the TG1 Arm Assy with bare hands.
8) Confirm that the claw of the S Reel Deck Assy is not deformed.

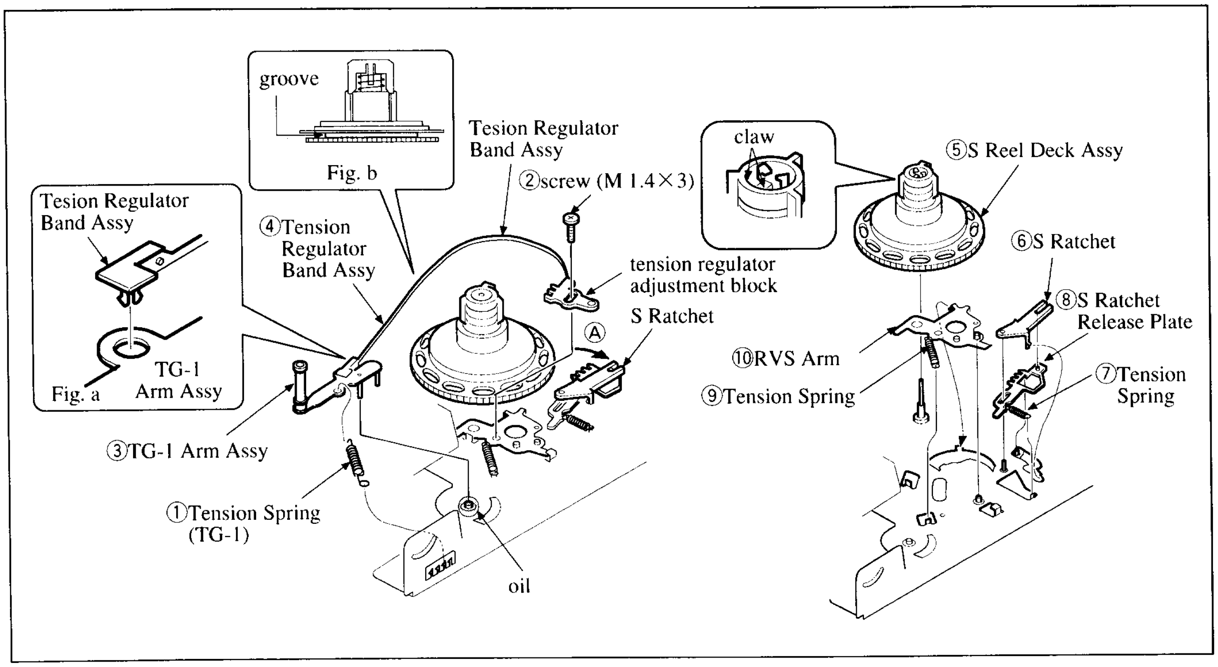

groove
Fig. b
Tesion Regulator Band Assy
②screw (M 1.4×3)
claw
⑤S Reel Deck Assy
Tesion Regulator Band Assy
④Tension Regulator Band Assy
tension regulator adjustment block
S Ratchet
Ⓐ
⑥S Ratchet
⑧S Ratchet Release Plate
⑩RVS Arm
⑨Tension Spring
⑦Tension Spring
TG-1 Arm Assy
Fig. a
③TG-1 Arm Assy
①Tension Spring (TG-1)
oil

Fig. 12

3-8. Pinch Arm Assy, TG4 Arm Block Assy (Refer to Fig. 13)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the Torsion Spring (pinch) ① from an end of Pinch Arm and hook it on the cut-out Ⓐ of the LS Chassis.
5) Remove the screw (M 1.4×2.5) ② and remove the TG4 Retainer ③.
6) Remove the TG4 Arm Block Assy ④ and remove the Torsion Spring ⑤ while paying attention to the Torsion Spring ⑤.
7) Remove the Pinch Arm Assy ⑥. (Caution: The Pinch Press Roller is easy to drop. Pay attention not to drop it.)
8) Remove the Torsion Spring (pinch) ① from the cut-out of the LS Chassis in the order of Ⓐ then Ⓑ.

2. Precautions During Re-Assembly

1) Before attaching these parts, coat the LS chassis pinch arm boss and TG4 arm boss with grease SG-055G (Ref. No. J-13).
2) Do not touch the tape guide of the TG4 Arm Block Assy and roller of the Pinch Arm Assy with bare hand.
3) After coating the Pinch Press Shaft of the Pinch Arm Assy ③ with grease SG-055G (Ref. No. J-13), attach the Pinch Press Roller.

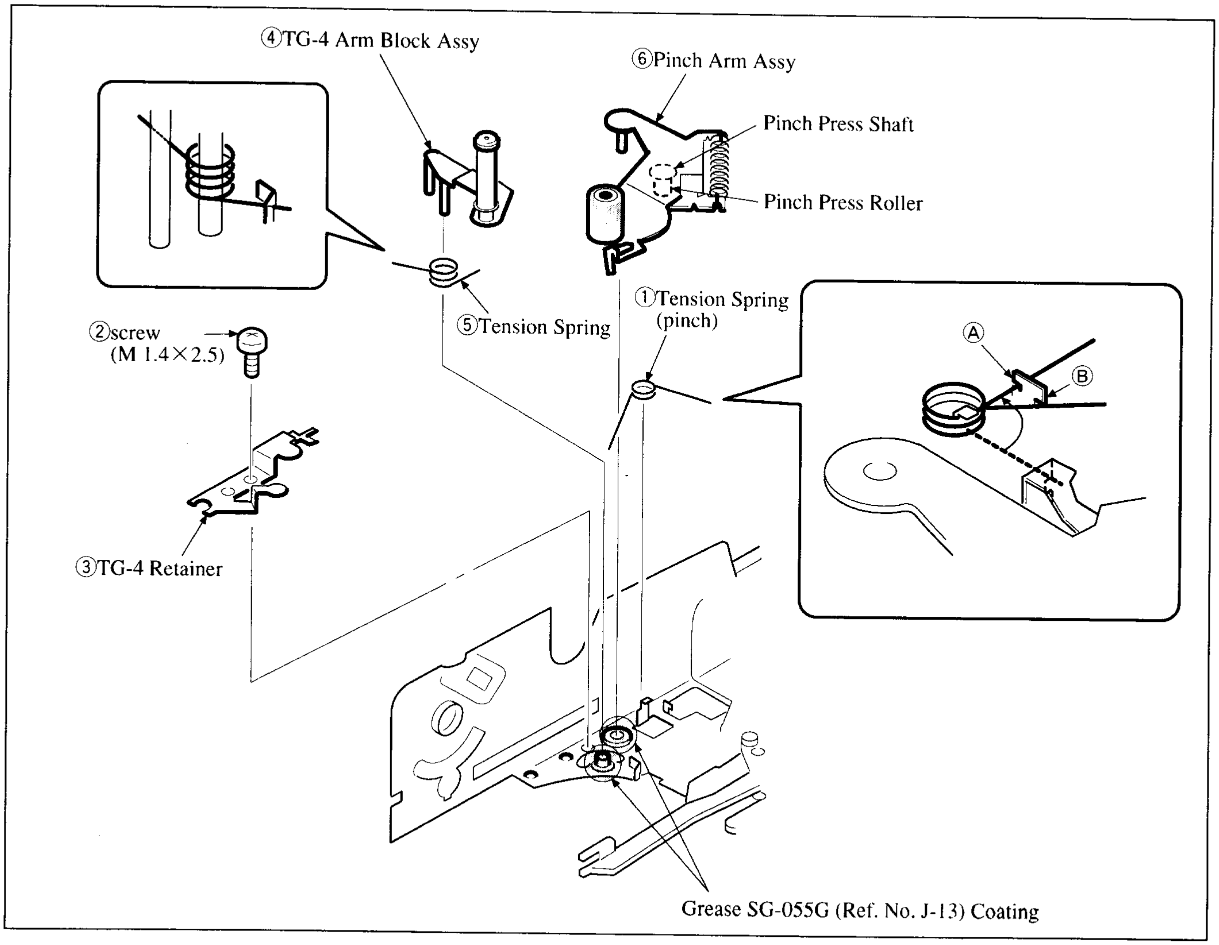

④TG-4 Arm Block Assy
⑥Pinch Arm Assy
Pinch Press Shaft
Pinch Press Roller
⑤Tension Spring
①Tension Spring (pinch)
②screw (M 1.4×2.5)
③TG-4 Retainer
Ⓐ
Ⓑ
Grease SG-055G (Ref. No. J-13) Coating

Fig. 13

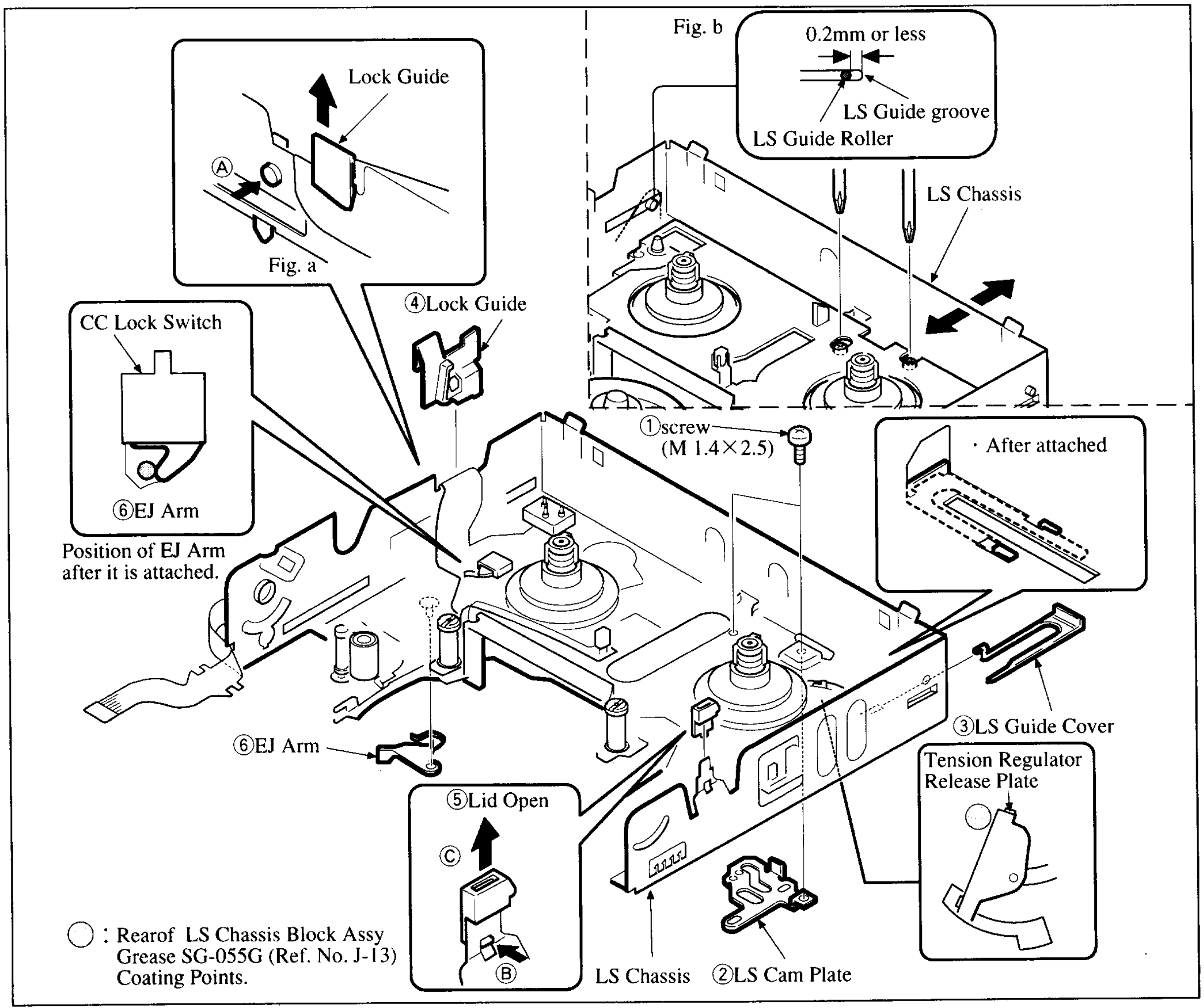
3-9. LS Cam Plate, LS Guide Cover, Lid Opener, EJ Arm, Lock Guide
(Refer to Fig. 14)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) Remove the two screws (M 1.4×2.5) ① and remove the the LS Cam Plate ②.
   In this state, write a mark on the screw ① and on the LS Chassis indicating the position of the LS Cam Plate which helps during re-assembly.
5) Remove the LS Guide Cover ③.
6) Remove the Lock Guide ④ in the upward direction. (Refer to Fig. a)
7) Remove the Lid Open ⑤ in the direction of the arrow Ⓒ while pushing Ⓑ portion .
8) Remove the EJ Arm ⑥ . (The EJ Arm ⑥ is press-fitted. If the EJ Arm ⑥ is not damaged, it is not necessary to replace.)

2. Precautions During Re-Assembly

1) After the captioned parts are attached, confirm that the respective claws and dowels are engaged completely.
2) If the EJ Arm ⑥ is removed, be sure to replace it with the new replacement EJ Arm.
3) If any mark is not written when removing the LS Cam Plate ②, adjust and attack it as shown in Fig. b.



Lock Guide
Ⓐ
Fig. a
Fig. b
0.2mm or less
LS Guide groove
LS Guide Roller
LS Chassis
CC Lock Switch
④Lock Guide
⑥EJ Arm
Position of EJ Arm after it is attached.
①screw (M 1.4×2.5)
· After attached
③LS Guide Cover
Tension Regulator Release Plate
⑥EJ Arm
⑤Lid Open
Ⓒ
Ⓑ
○ : Rearof LS Chassis Block Assy Grease SG-055G (Ref. No. J-13) Coating Points.
LS Chassis
②LS Cam Plate

Fig. 14

3-10. Guide Base (S) and (T) Block Assemblies, Guide Rail (Refer to Fig. 15)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
3) Remove the LS Chassis Block Assy referring to section 3-5.
4) While pushing the GB Stoppers (S) and (T) in the direction of arrow Ⓐ, press the guide arm in the direction of the arrow Ⓑ, and turn the Guide Base (S) and (T) Block Assemblies : ① and ② in the direction of the arrow Ⓒ respectively, and remove them.
5) Remove the two screws (M 1.4×2.5) ③ and remove the the Guide Rail Assy ④.
6) Remove the Stopper (S) and (T) : ⑤ and ⑥, then remove the GB Stopper S and T: ⑦ and ⑧.

2. Precautions During Re-Assembly

1) Pay attention not to deform the Guide Rail.
2) Do not touch the tape guide of the Guide Base (S) and (T) Block Assemblies with bare hand.
3) Pay attention not to deform the Stoppers (S) and (T).
4) When attaching the Guide Base (S) and (T) Blocks to the Guide Rail, move back the Guide Bases until the GB Stoppers (S) and (T) are locked. ("Click" sounds.)
5) After the captioned parts are attached, perform section "4. TAPE PATH ADJUSTMENT".

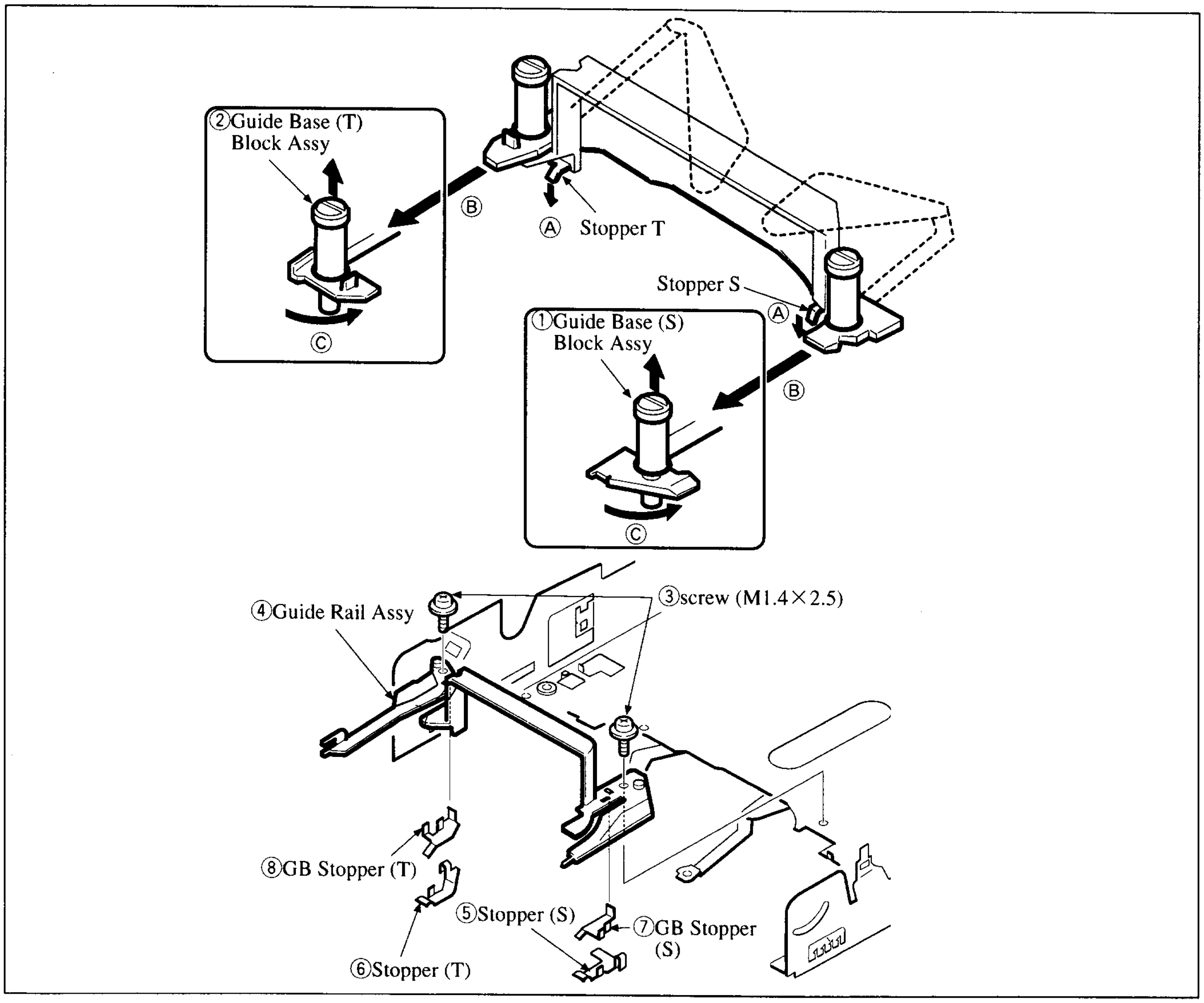

②Guide Base (T) Block Assy
Ⓑ
Ⓐ Stopper T
Ⓒ
Stopper S
Ⓐ
①Guide Base (S) Block Assy
Ⓑ
Ⓒ
④Guide Rail Assy
③screw (M1.4×2.5)
⑧GB Stopper (T)
⑤Stopper (S)
⑦GB Stopper (S)
⑥Stopper (T)

Fig. 15

- **PARTS CONSTITUTING THE MECHANISM CHASSIS**

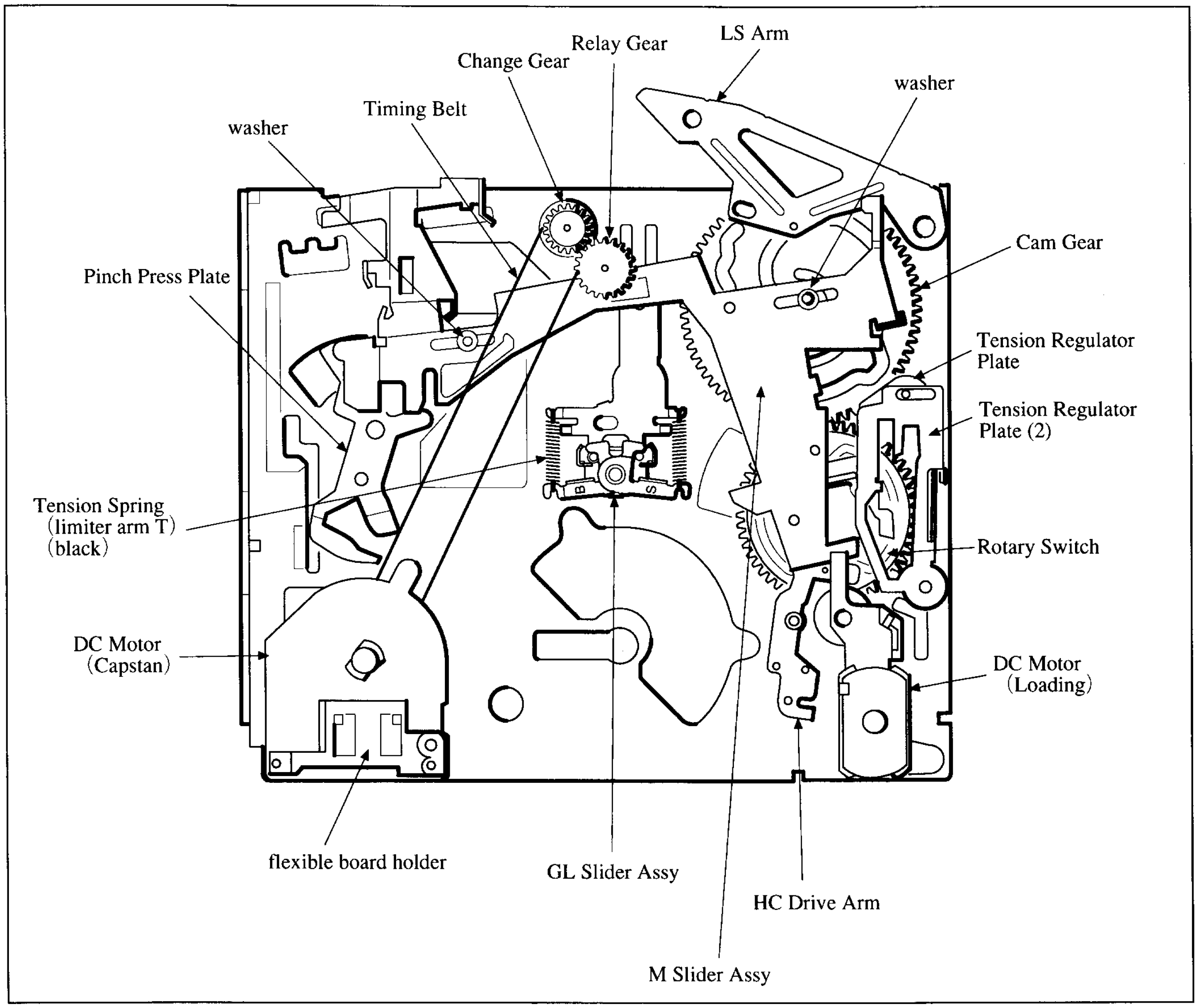

Relay Gear
LS Arm
Change Gear
washer
Timing Belt
washer
Cam Gear
Pinch Press Plate
Tension Regulator Plate
Tension Regulator Plate (2)
Tension Spring (limiter arm T) (black)
Rotary Switch
DC Motor (Capstan)
DC Motor (Loading)
flexible board holder
GL Slider Assy
HC Drive Arm
M Slider Assy

Fig.16

3-11. DC Motor Assy (Loading)
(Refer to Fig. 17)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove soldering from the Ⓐ portion.
8) Remove the screw (M 1.4×2.5) ① and remove the Motor Holder Block Assy ② from the mechanism chassis along with the claw beneath the Motor Holder Block Assy as shown by the arrow Ⓑ.
9) Remove the Motor Shield ③ in the direction of the arrow Ⓒ (by opening the two ★ star marked points).
10) Release the claw on top of the Motor Holder ⑤ and remove the DC Motor Assy ④ in the direction of the arrow Ⓓ.
11) Remove the Motor Holder Sleeve ⑥, Gear A⑦ and Worm Shaft ⑧ in this order.

2. Precautions During Re-Assembly

1) Before attaching the Gear A ⑥, coat the Retainer Shaft Ⓔ with grease SG-055G (Ref. No. J-13).
2) After assembling the Motor Holder Block Assy, coat the six locations shown by Fig. a with grease SG-055G (Ref. No. J-13).
3) The HC Drive Arm is easy to drop. Confirm that it is attacked referring to Fig. 19.

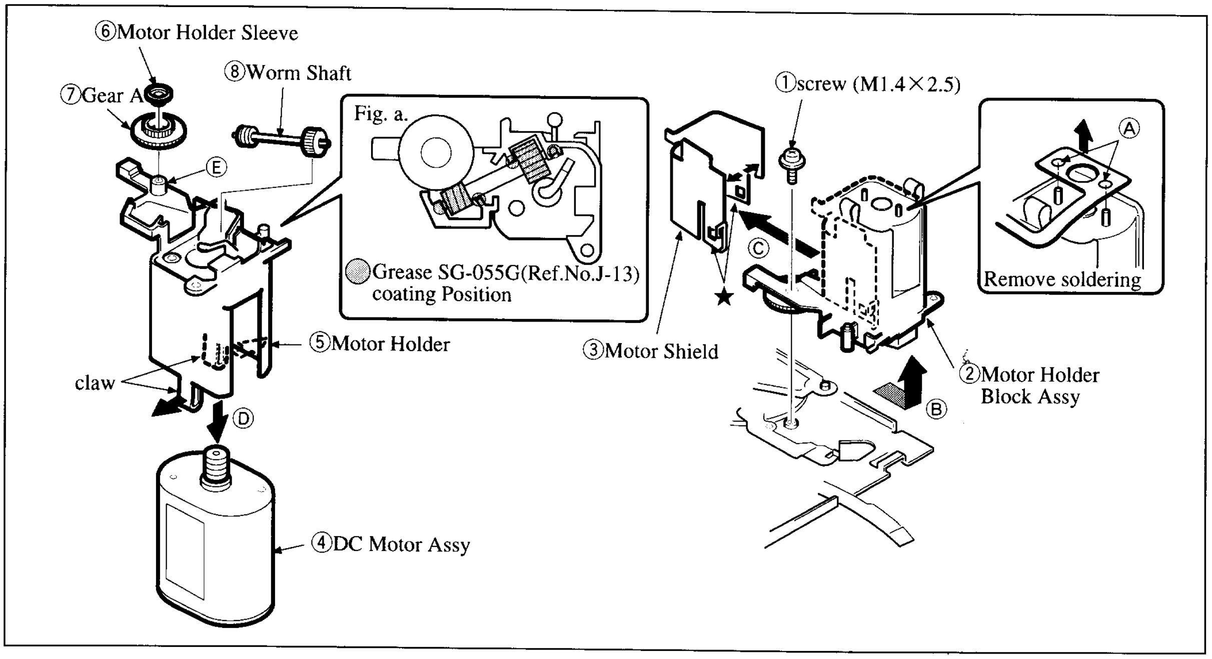

⑥Motor Holder Sleeve
⑧Worm Shaft
⑦Gear A
Ⓔ
Fig. a.
●Grease SG-055G(Ref.No.J-13) coating Position
①screw (M1.4×2.5)
Ⓐ
Remove soldering
Ⓒ
★
⑤Motor Holder
③Motor Shield
claw
Ⓓ
②Motor Holder Block Assy
Ⓑ
④DC Motor Assy

Fig. 17

3-12. Tension Regulator Plate 2, Relay Gear, M Slider Assy (Refer to Fig. 18)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC motor referring to section 3-11.
8) Remove the Tension Regulator Plate 2 ①.
9) Remove the Relay Gear ②.
10) Remove the two washers ③. Remove the M Slider Assy ④. At the point, confirm that the LS Roller ⑤ is not dropped.

2. Precautions During Re-Assembly

1) Before attaching the M Slider Assy ④, coat the LS Roller Shaft Ⓐ on the back of the M Slider Assy, the Pinch Press Plate Shaft Ⓑ and the mechanism chassis M Slider Axis Ⓒ with grease SG-055G (Ref. No. J-13). (Refer to Fig. b)
2) While confirming the phase-determining holes, attach the M Slider Assy ④ while paying attention to the claw.
3) Attach the Tension Regulator Plate 2 ① inside the Tension Regulator Plate. (Refer to the asterisk * Marked portion of Fig. a)
4) Before attaching the Relay Gear ②, coat the mechanism chassis Relay Gear Axis Ⓓ with grease SG-055G (Ref. No. J-13).

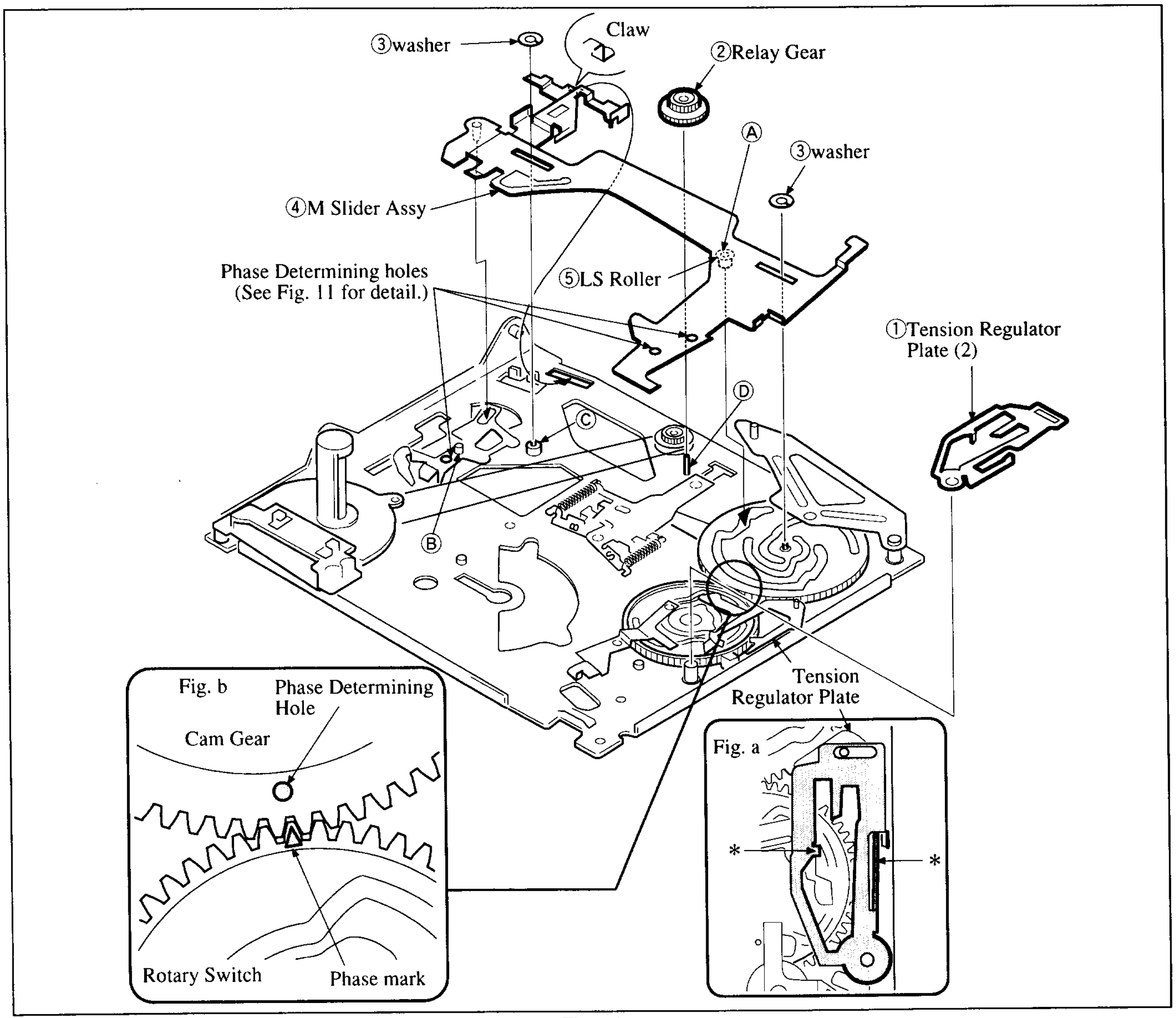

③washer
Claw
②Relay Gear
Ⓐ
③washer
④M Slider Assy
Phase Determining holes
(See Fig. 11 for detail.)
⑤LS Roller
①Tension Regulator Plate (2)
Ⓓ
Ⓒ
Ⓑ
Tension Regulator Plate
Fig. b
Phase Determining Hole
Cam Gear
Rotary Switch
Phase mark
Fig. a
*
*

Fig. 18

3-13. LS Arm, HC Drive Arm, Pinch Press Plate, Tension Regulator Plate (Refer to Fig. 19)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm ①. At this point, confirm that the LS Roller ② is not dropped.
10) Remove the HC Drive Arm ③, Pinch Press Plate ④ and Tension Regulator Plate ⑤.

2. Precautions During Re-Assembly

1) Before attaching the captioned parts, confirm that phases of the Cam Gear and the Rotary Switch agree. (See Fig. a.)
2) Insert the dowel of the Tension Regulator Plate ⑤ into the groove outside the rotary switch.
3) Before attaching the Pinch Press Plate ④, check for grease on the mechanism chassis Pinch Press Plate Shaft Ⓐ. If grease cannot be found, coat it with grease SG-055G (Ref. No. J-13). After attaching the Pinch Press Plate ④, align its phase hole until it agrees with the phase-determining hole on the mechanism chassis.
4) Insert the dowel of the HC Drive Arm ③ into the groove inside the rotary switch.
5) Before attaching the LS Arm ①, coat the LS roller shaft of the LS Arm ① with grease SG-055G (Ref. No. J-13).

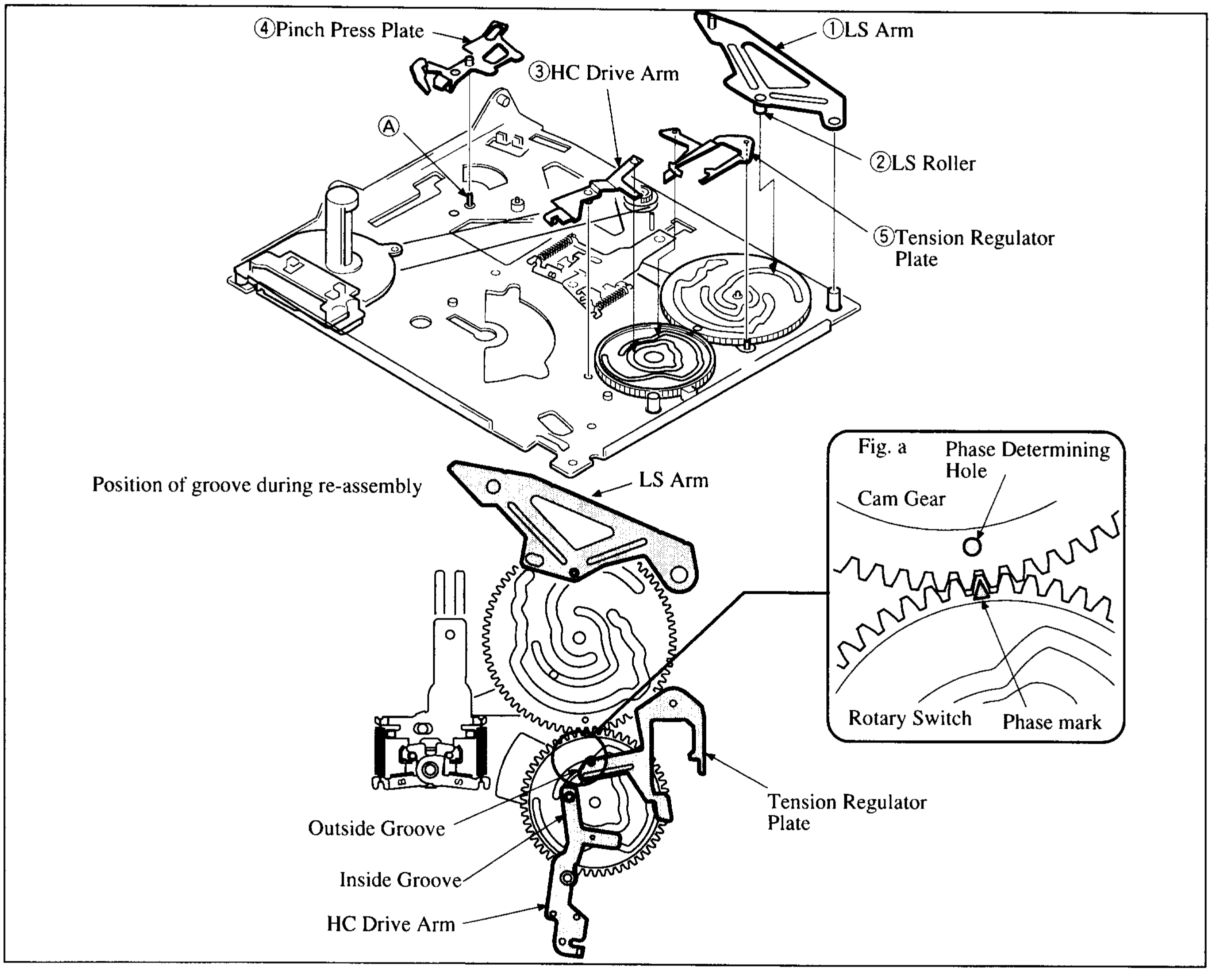

④Pinch Press Plate
③HC Drive Arm
①LS Arm
Ⓐ
②LS Roller
⑤Tension Regulator Plate
Position of groove during re-assembly
LS Arm
Fig. a
Phase Determining Hole
Cam Gear
Rotary Switch
Phase mark
Tension Regulator Plate
Outside Groove
Inside Groove
HC Drive Arm

Fig. 19

3-14. Cam Gear (Refer to Fig. 20)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear ①.

2. Precautions During Re-Assembly

1) Before attaching the Cam Gear ①, align the phase mark on the rotary switch until it agrees with the phase-determining hole Ⓐ on the mechanism chassis, and align the GL Arm's phase mark Ⓑ until it agrees with the phase-determining hole Ⓐ on the mechanism chassis. Coat the mechanism's chassis Gear Axis Ⓐ with grease SG-055G (Ref. No. J-13).
2) Attach the Cam Gear ① so that its phase hole agrees with the phase mark on the rotary switch. (Refer to Fig. a)
3) After the Cam Gear ① is attached, coat the GL Arm Axis Block of the cam gear with grease SG-055G (Ref. No. J-13).

Reference : The phase marks of the Cam Gear and Rotary Switch can also be checked from the rear side of mechanism chassis. It means that the phase can be confirmed after mechanism deck is fully re-assembled.

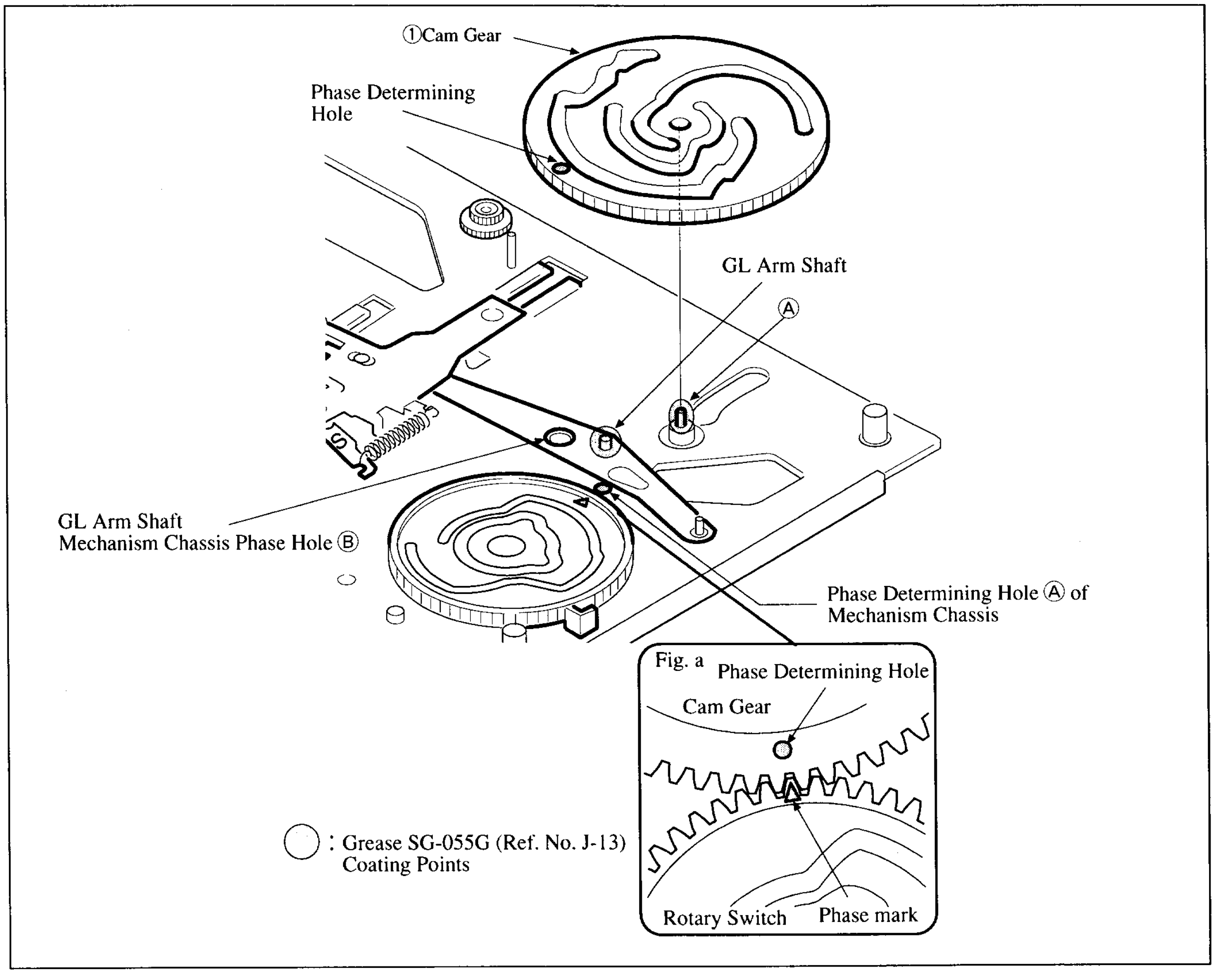

①Cam Gear
Phase Determining Hole
GL Arm Shaft
Ⓐ
GL Arm Shaft
Mechanism Chassis Phase Hole Ⓑ
Phase Determining Hole Ⓐ of Mechanism Chassis
Fig. a
Phase Determining Hole
Cam Gear
Rotary Switch
Phase mark
○ : Grease SG-055G (Ref. No. J-13) Coating Points

Fig. 20

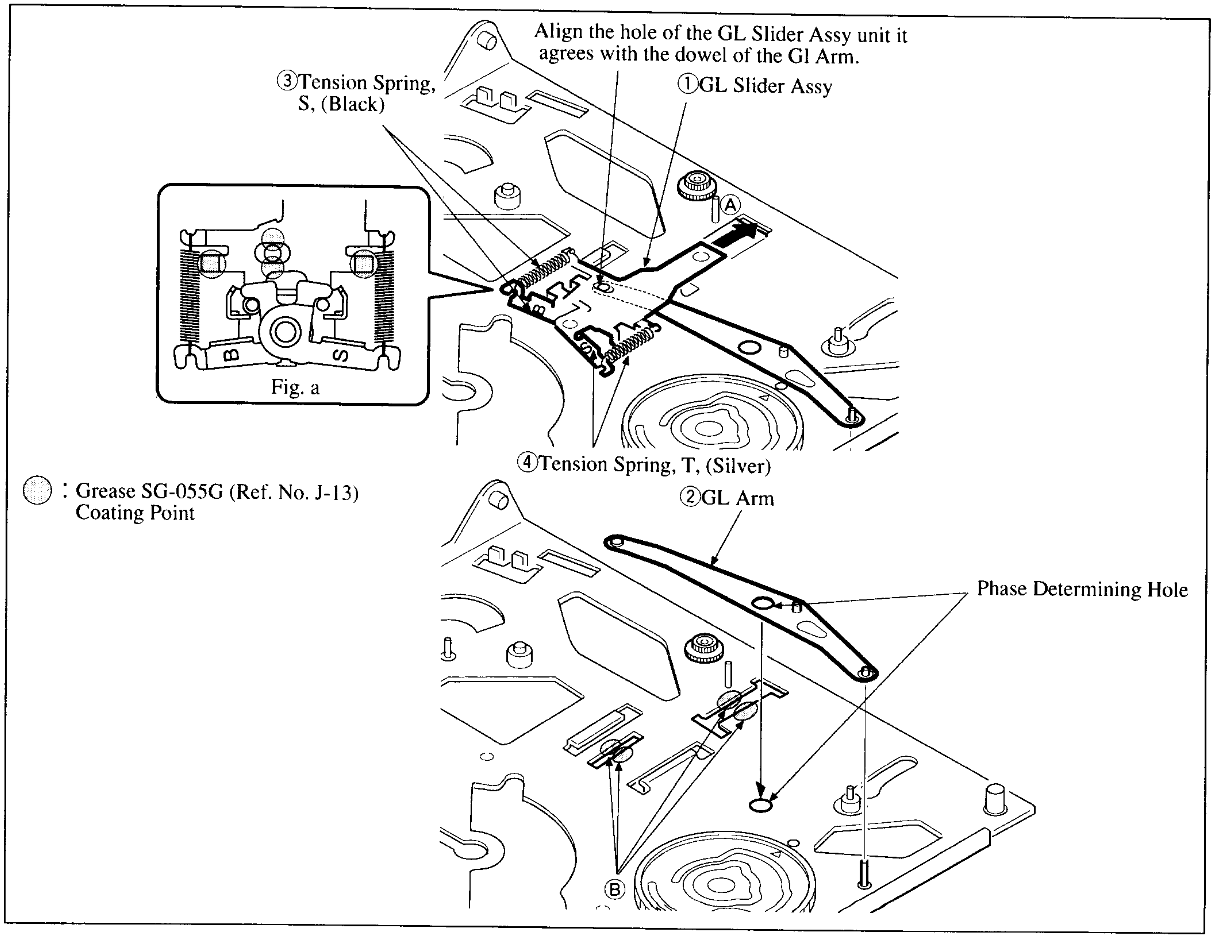
3-15. GL Slider Assy, GL Arm (Refer to Fig. 21)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm and Tension Regulator Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove the GL Slider Assy ① by sliding it in the direction of the arrow Ⓐ.
12) Remove the GL Arm ②.

2. Precautions During Re-Assembly

1) The Tension Spring T③ is colored black and the Tension Spring S④ is colored silver.
2) Coat the position shown in Fig. a of the GL Slider Assy ① with grease SG-055G (Ref. No. J-13).
3) Coat the four points Ⓑ where GL slider is attached on the mechanism chassis with grease SG-055G (Ref. No. J-13).
4) After attaching the GL Arm ② and the GL Slider Assy, align the GL arm phase hole until it agrees with the phase-determining hole on the mechanism chassis.



Align the hole of the GL Slider Assy unit it agrees with the dowel of the Gl Arm.
③Tension Spring, S, (Black)
①GL Slider Assy
Ⓐ
B
S
Fig. a
④Tension Spring, T, (Silver)
②GL Arm
○ : Grease SG-055G (Ref. No. J-13) Coating Point
Phase Determining Hole
Ⓑ

Fig. 21

3-16. Rotary Switch (Refer to Fig. 22)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the LS Arm, Tension Regulator Plate, HC Drive Arm and Pinch Press Plate referring to section 3-13.
10) Remove the Cam Gear referring to section 3-14.
11) Remove soldering the portion Ⓐ on the rear of the Rotary Switch. (Pay attention at this moment that the GL Slider and GL Arm do not drop.)
12) While lifting up the portion Ⓑ about 1 mm (pay attention not to break it), hold the portion Ⓒ and turn it in the direction of the arrow Ⓓ to remove the Rotary Switch.

2. Precautions During Re-Assembly

1) Before attaching the Rotary Switch by soldering on the FP-220 board, insert the portion Ⓑ dowel into the hole on the mechanism chassis. Confirm that the three claws are engaged with the mechanism chassis.

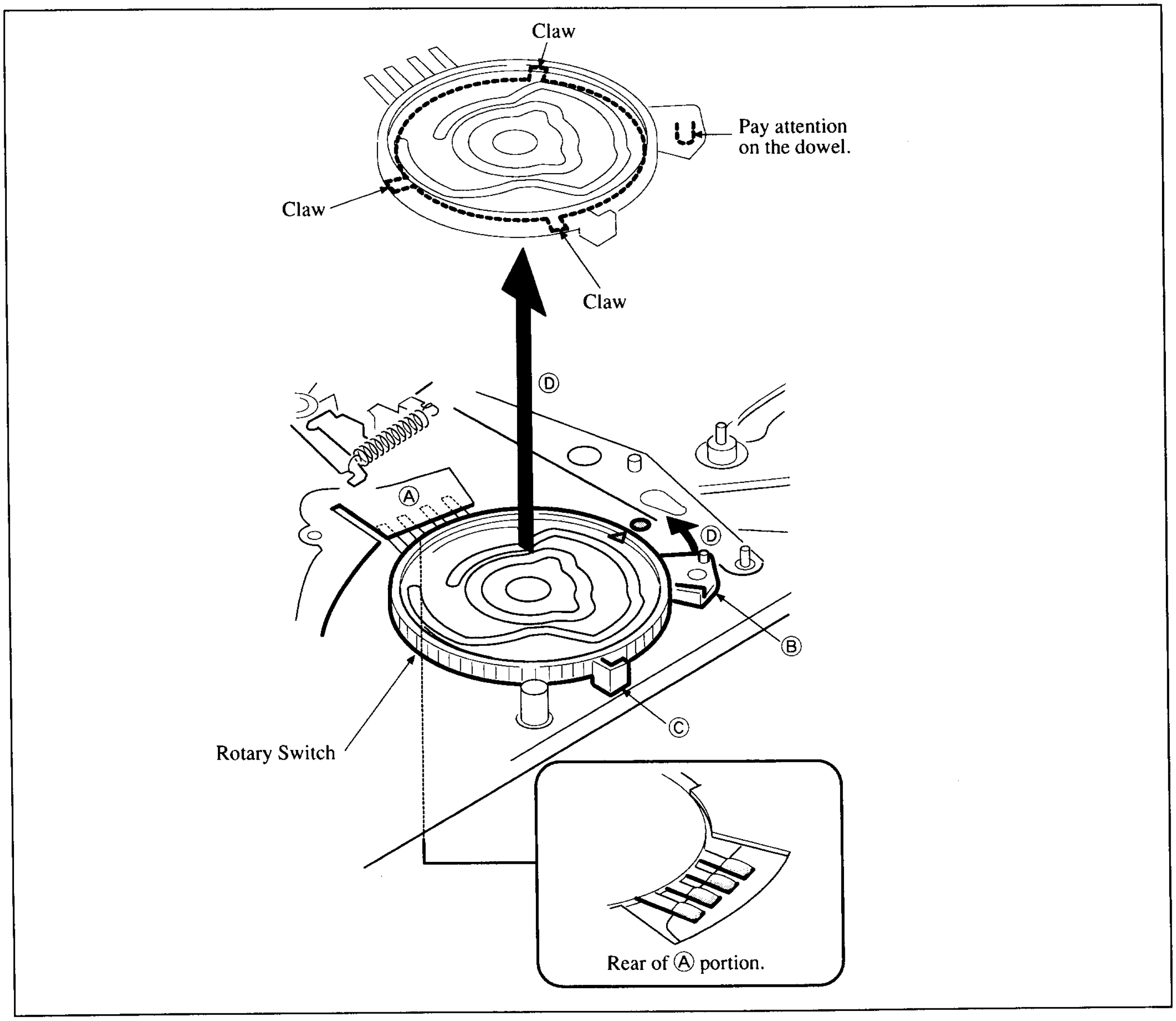


Fig. 22

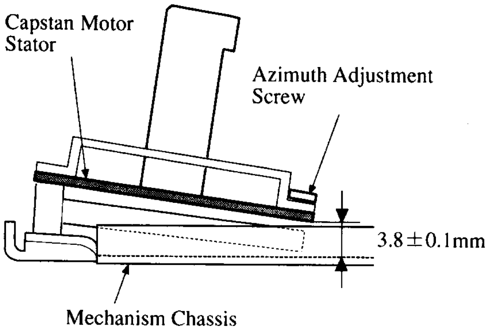
3-17. Capstan Motor (Refer to Fig. 23)

1. Disassembly Procedure

1) Remove the Cassette Compartment Block Assy referring to section 1-1.
2) Remove the HC Roller Block Assy referring to section 3-1.
3) Remove the Drum Assy referring to section 3-2.
4) Remove the Drum Base Block Assy referring to section 3-3.
5) Remove the Gooseneck Retainer and Gooseneck Gear Assy referring to section 3-4.
6) Remove the LS Chassis Block Assy referring to section 3-5.
7) Remove the DC Motor Assy referring to section 3-11.
8) Remove the Tension Regulator Plate 2, Relay Gear and M Slider Assy referring to section 3-12.
9) Remove the Pinch Press Plate referring to section 3-13.
10) Remove the screw (M 1.4×6.7) ① and remove the Flexible Board Holder ②.
11) Remove the two screws (M 1.4×6.7) ③ and remove the Capstan Motor ④, Timing Belt ⑤ and Capstan Spacer ⑥.
12) Remove the washer ⑦ and remove the Changer Gear ⑧.

2. Precautions During Re-Assembly

1) Confirm that the timing belt is not twisted.
2) Do not touch the capstan with bare hand.
3) Lubricate the mechanism chassis's Change Gear shaft Ⓐ.
4) After attaching the Capstan Motor, perform the capstan azimuth adjustment.


Capstan Motor Stator
Azimuth Adjustment Screw
3.8±0.1mm
Mechanism Chassis

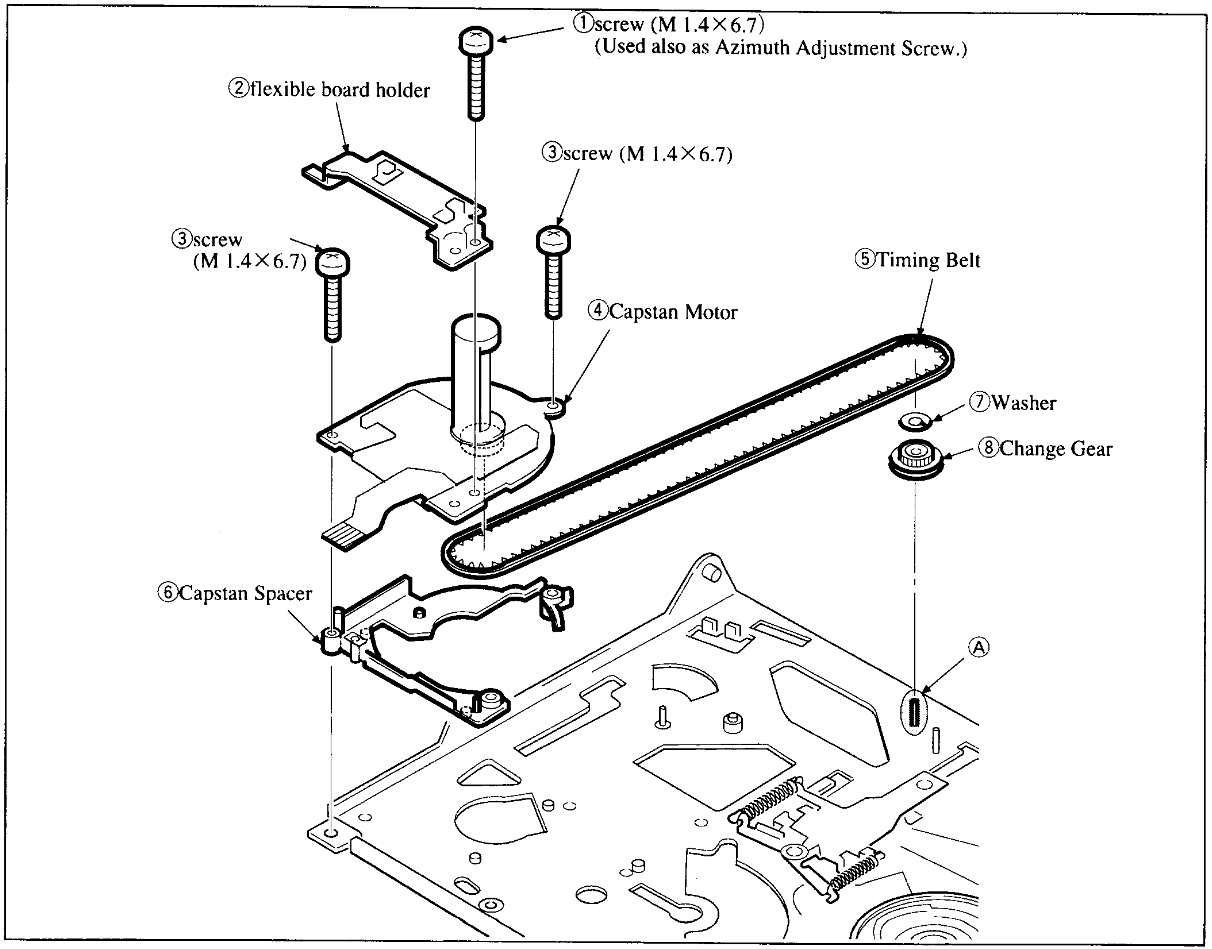

①screw (M 1.4×6.7)
(Used also as Azimuth Adjustment Screw.)
②flexible board holder
③screw (M 1.4×6.7)
③screw
(M 1.4×6.7)
⑤Timing Belt
④Capstan Motor
⑦Washer
⑧Change Gear
⑥Capstan Spacer
Ⓐ

Fig. 23

3-18. Tension Regulator Position Adjustment (Refer to Fig.24)

1. Adjustment Procedure

1) Insert a cassette Tape and run the Tape in PB mode.
2) While tape is running, confirm that the distance between the LS Chassis and TG-1 Guide's top flange is 8.3mm.
3) If not, proceed to step 4).
4) Loosen the screw ① (M 1.4×3).
5) If the TG-1 Guide is located inside the specified position, move position of the Tension Regulator Band Assy using the FWD B.T. Adjustment tool screwdriver (Ref. No. J-9) as shown in the direction of the arrow Ⓐ. If it is located outside, move it in the direction of the arrow Ⓑ.
6) Tighten the screw ① (M 1.4×3).

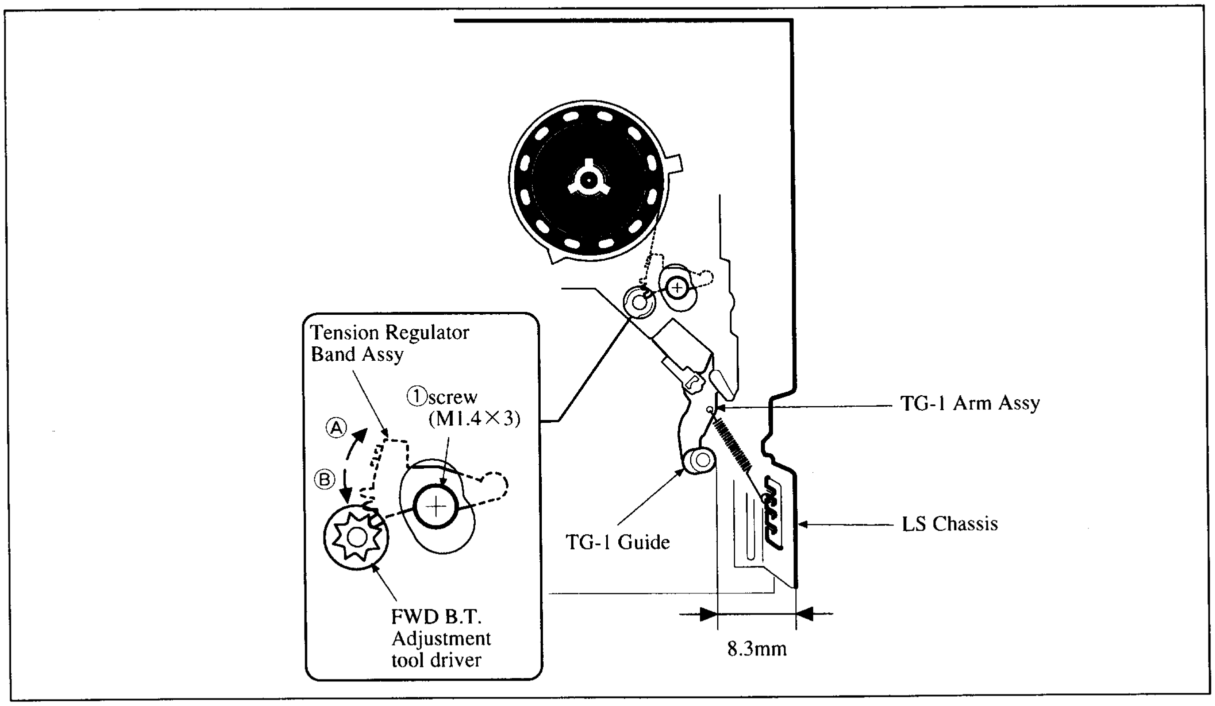

Tension Regulator Band Assy
①screw (M1.4×3)
Ⓐ
Ⓑ
FWD B.T. Adjustment tool driver
TG-1 Guide
TG-1 Arm Assy
LS Chassis
8.3mm

Fig.24

3-19. FWD Tape Hold-Back Tension Adjustment (Refer to Fig. 25)

1. Adjustment Procedure

1) Insert the torque measurement cassette to the machine.
2) Put the machine in the FWD mode. Confirm that the reading on the S side is in the range from 8.0 to 10.5 g•cm. If the reading is outside the specification range, make the following adjustments.
3) If the reading is higher than the specification, change the TG-1 Tension Spring to the side Ⓐ.
4) If the reading is lower than the specification, change the TG-1 Tension Spring to the side Ⓑ.

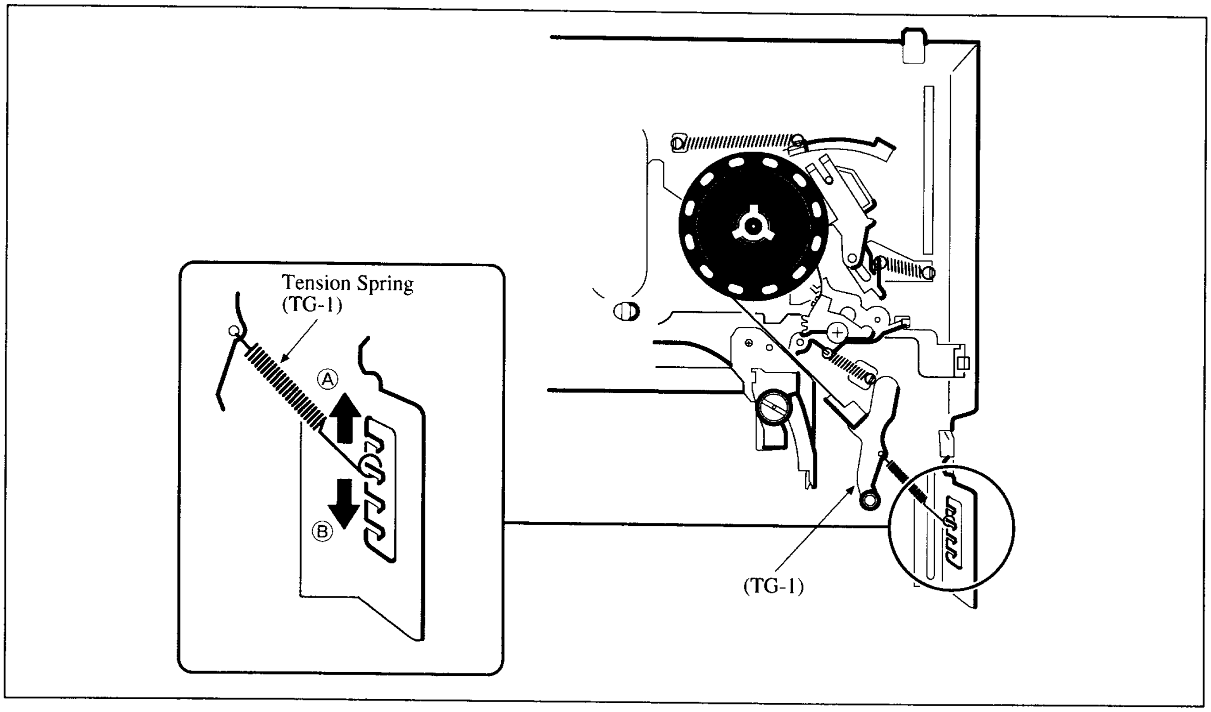


Fig. 25

4. TAPE PATH ADJUSTMENT

Purpose:	Adjusts the head linearity.
Adjustment Error:	Noise appears on top and bottom of display when playing back the tape recorded by other machines.

4-1. Preparations for Adjustments

1) Clean the tape running surface (tape guide, drum, capstan, pinch roller).
2) Connect the adjustment remote commander to the REMOTE terminal (JACK block).
3) Establish the PATH mode using the adjustment remote commander (Track Shift mode)* to cancel auto tracking.
4) Connect an oscilloscope.
   CH1: Test connector PB RF terminal
   External trigger: Test connector PB SWP terminal
5) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
6) Check to see that RF waveform is flat at input and exit sides on oscilloscope.
   If it not flat, perform the following section 4-2 until it is flat.
7) After completing the adjustment, release the PATH mode (Track Shift mode).*.

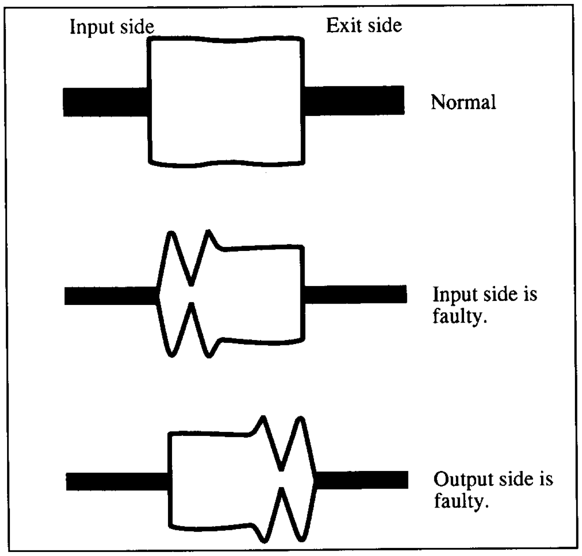


Fig. 26

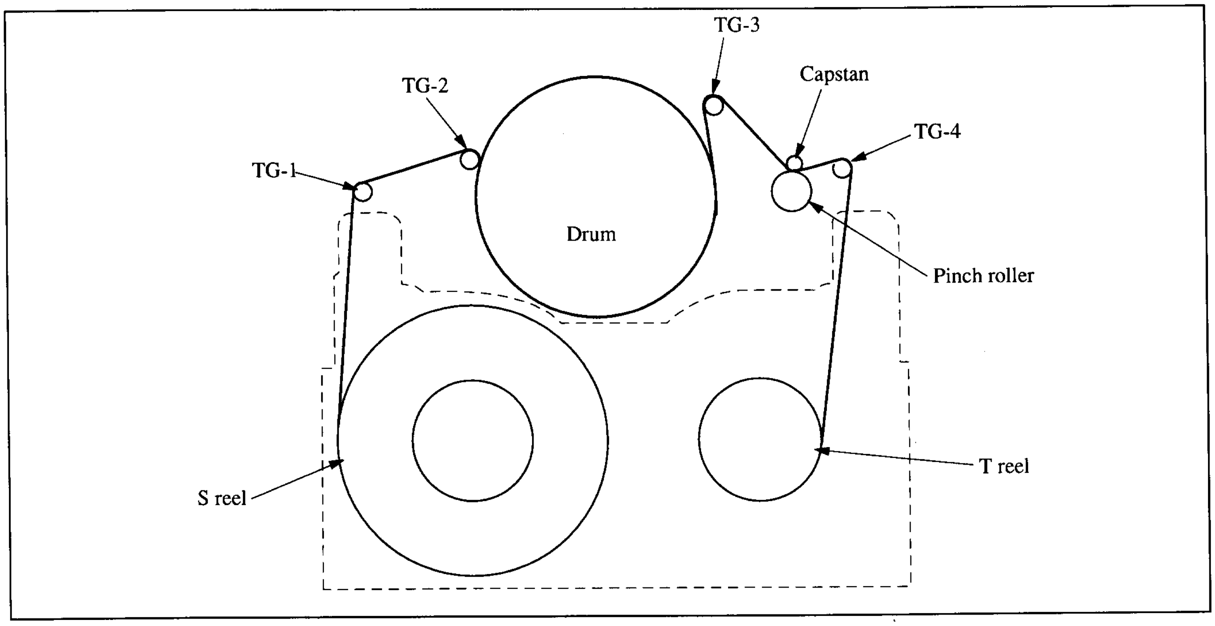


Fig. 27

* How to enter and exit the Track Shift mode. (In the case of CCD-TR420E/TR440E)

Entering the Track Shift mode

1. Select page : 6, address : 00 set data : 01 and press the PAUSE button.
2. Select page : 7, address : 01 set data : 03 and press the PAUSE button.

Exitting the Track Shift mode

1. Select page : 7, address : 01 set data : 00 and press the PAUSE button.
2. Select page : 6, address : 00 set data : 00 and press the PAUSE button.

4-2. Tracking Adjustment (Refer to Fig. 28.)

1) Playback the tracking alignment tape WR5-1NP (NTSC) or WR5-1CP (PAL) (Ref. No. J-6).
2) Adjust the tape guide No. 2 until the input side waveform becomes flat.
3) Adjust the tape guide No. 3 until the input side waveform becomes flat.

☆ Zenith adjustment screws for the TG-2 and TG-3 do not need to be adjusted.

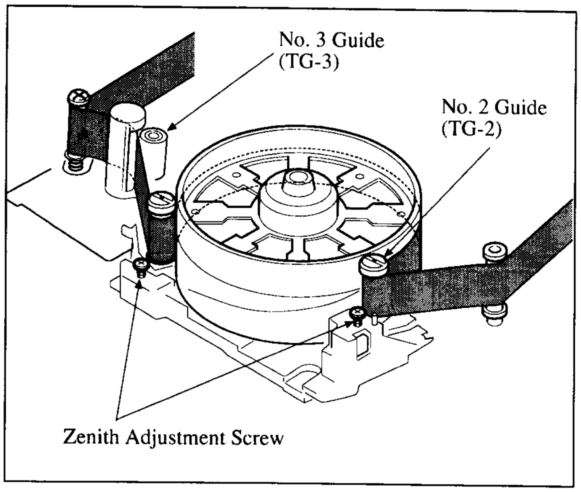


Fig. 28

4-3. No. 4 Guide (TG-4) Adjustment (Refer to Fig. 29.)

1) Playback a tape in REV mode.
2) Confirm that tape slack does not occur in between the guide No. 3 (TG-3) ① and Capstan ②. If tape slack is found, turn the height adjustment screw ④ of the Guide No. 4 (TG-4) ③ until tape slack is removed.
3) Playback a tape in FWD mode. Confirm that tape slack does not occur in between the guide No. 4 (TG-4) ③ and capstan ②. (Specification = 0.5 mm or less) If tape slack of more than 0.5 mm is found, turn the TG-4 nut ④ until the slack is 0.5 mm or less. Playback tape in REV mode and confirm that tape slack in between the guide No. 3 (TG-3) ① and capstan ② is 0.3 mm or less, the adjustment is complete.

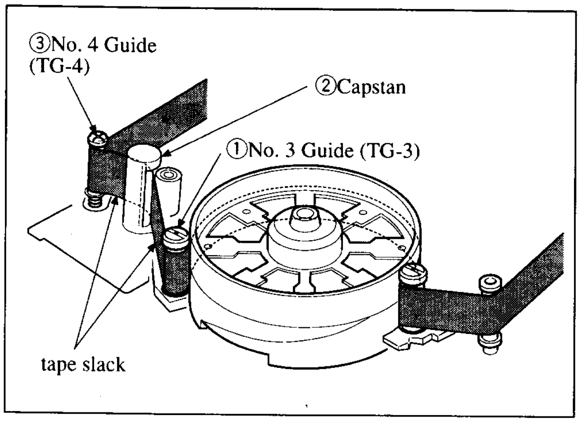


Fig. 29

4-4. CUE, REV Waveforms Check (Refer to Fig. 30.)

1) Playback the tracking alignment tape in REV mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform sections "4-2. Tracking Adjustment" and section "4-3. No. 4 Guide Adjustment".
2) Playback the tracking alignment tape in CUE mode.
   Confirm that pitches between the peaks of the waveform are equally spaced for 5 seconds or longer.
   The pitches are not equally spaced, perform section "4-2. Tracking Adjustment".

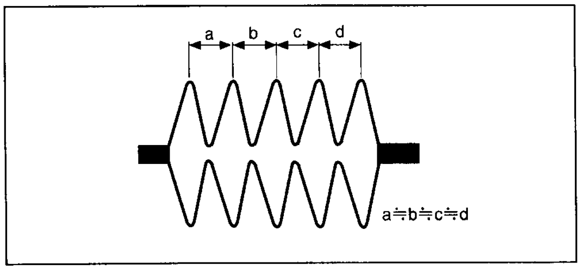


Fig. 30

4-5. Checks After Adjustments

4-5-1. Tracking Check

1) Confirm that amplitude of the RF waveform decreases to about 3/4 when the machine enters the PATH mode. (Refer to Fig. 31)
2) Confirm that the minimum amplitude (EMIN) of the RF waveform is 65 % or more of the maximum amplitude (EMAX). (Refer to Fig. 32)
3) Confirm that the RF waveform does not have too much fluctuation. (Refer to Fig. 33)

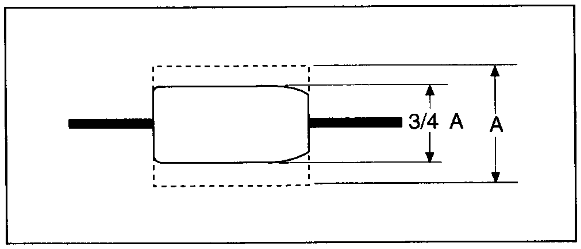


Fig. 31

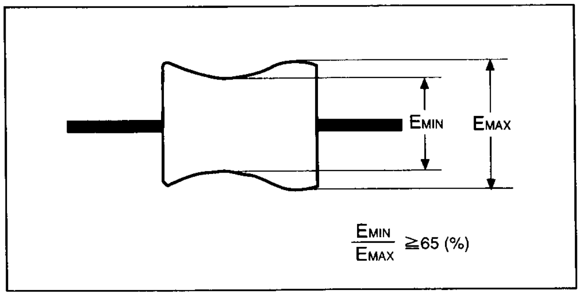


Fig. 32

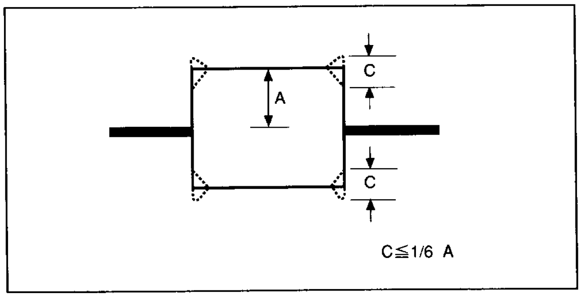


Fig. 33

4-5-2. Waveform Build-up Check (Refer to Fig. 34.)

1) Playback the tracking alignment tape.
2) Turn OFF the Track Shift mode.
3) Eject the tape once, insert and load the tape.
4) Start playing back the tape and confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
5) Playback the tape in CUE/REV and FF/REW modes respectively. Confirm that the RF waveform builds up in three seconds with flat envelope. Confirm at this time that tape slack does not occur near pinch roller.
6) Repeat the check items 3) to 5) again.

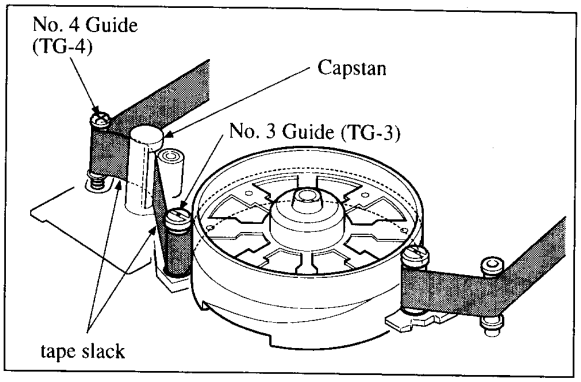


Fig. 34

4-5-3. Tape Pass Check (Refer to Fig. 35.)

1) Insert a thin video tape such as P6-120MP (NTSC) or P5-120MP (PAL). Playback the thin tape. Confirm that there is no clearance or curl of 0.3 mm or more at the following points: Upper flange of guide No. 2, upper flange of guide No. 3, upper and lower flanges of guide No. 4.
2) Confirm that there is no clearance or curl of 0.3 mm or more at each tape guide when the FF button is pressed from the playback mode to enter the CUE mode, and when the REW button is pressed from the playback mode to enter the REV mode.

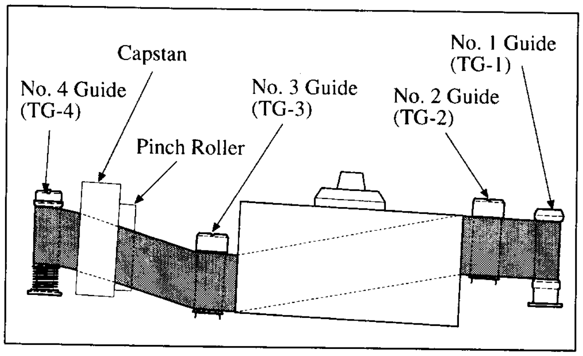
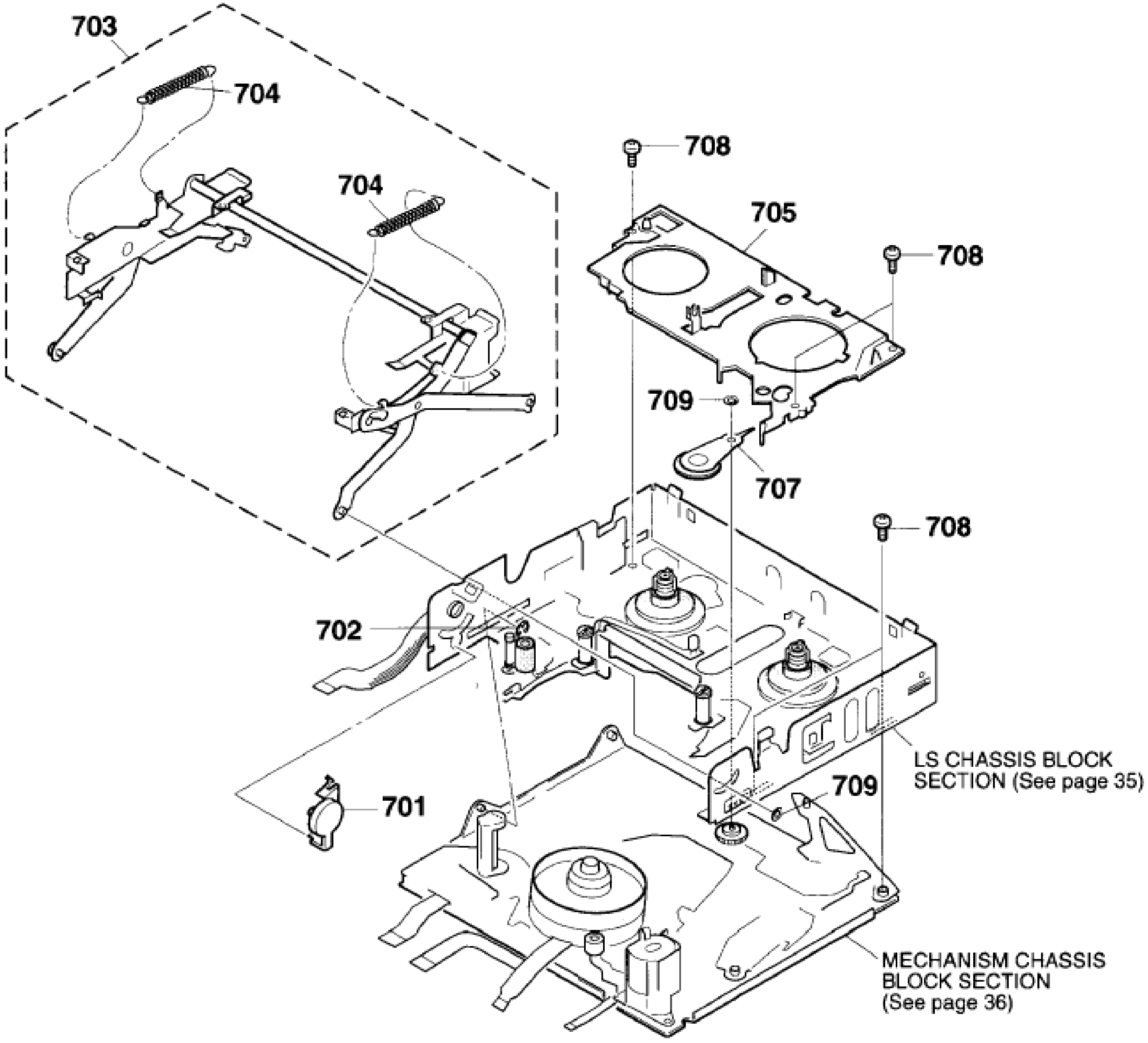
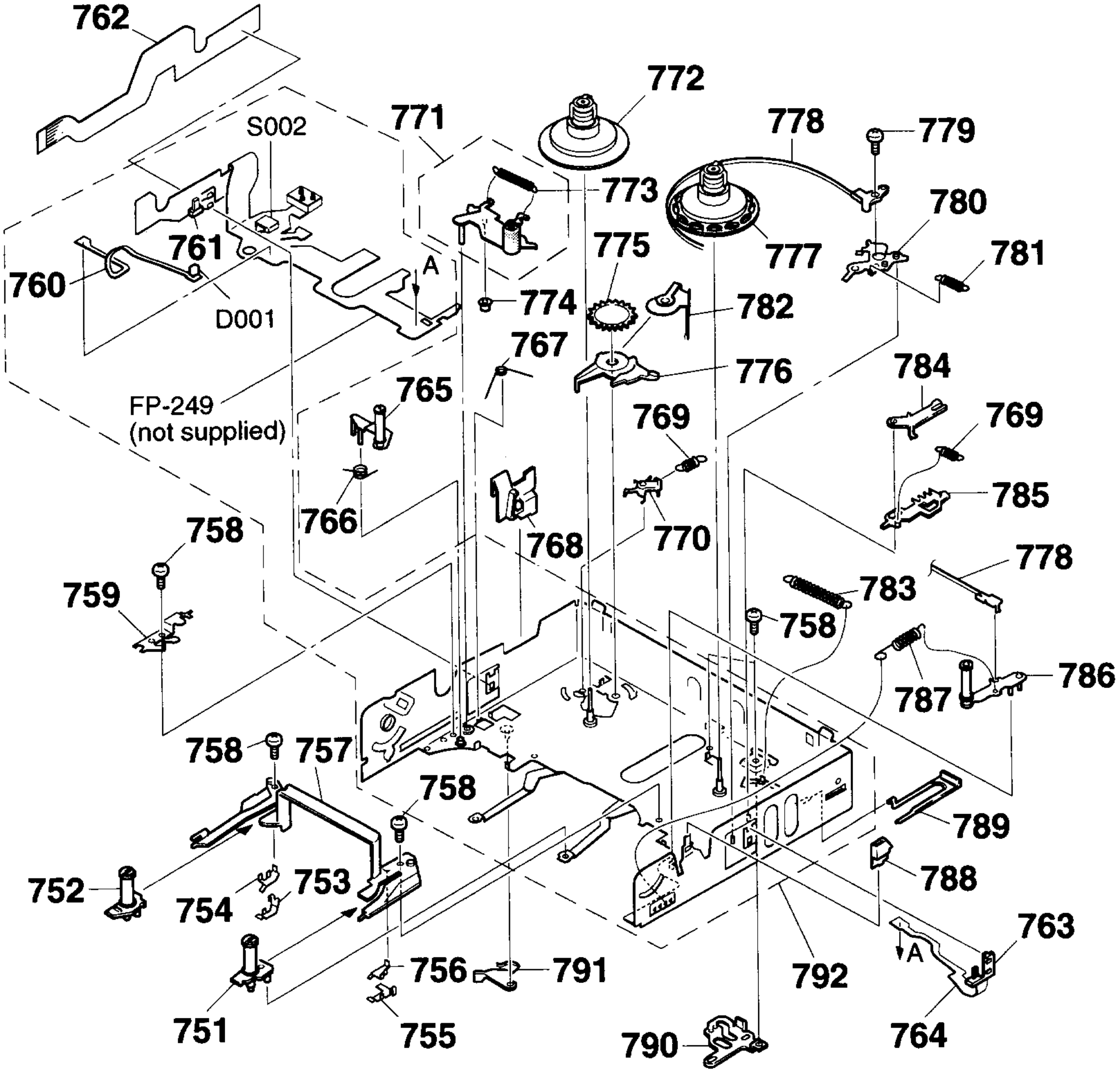


Fig. 35

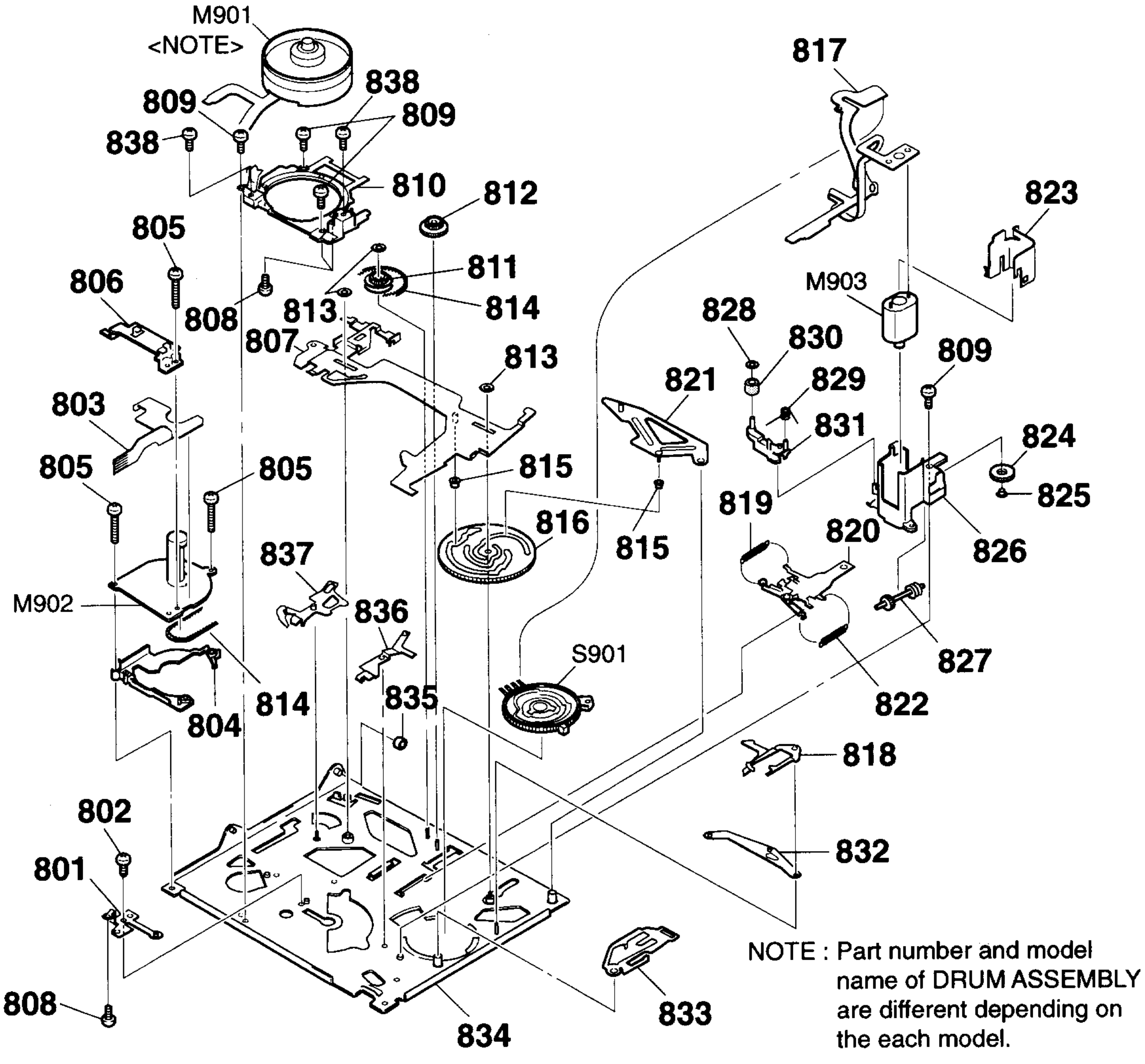
5-1. Cassette Compartment Block Section


703
704
704
708
705
708
709
707
708
702
701
709
LS CHASSIS BLOCK SECTION (See page 35)
MECHANISM CHASSIS BLOCK SECTION (See page 36)

5-2. LS Chassis Block Section


762
S002
771
772
778
779
773
780
761
777
775
781
760
774
D001
782
767
776
FP-249
(not supplied)
765
784
769
769
766
768
785
770
758
778
759
783
758
786
787
758
757
758
789
752
753
788
754
763
756
791
792
751
755
790
764
A
A

5-3. Mechanism Chassis Block Section


M901
<NOTE>
817
838
809
809
838
810
812
823
805
811
806
808
813
814
M903
828
807
830
813
809
821
829
803
831
824
805
805
815
825
819
816
820
815
826
837
M902
836
827
S901
814
804
835
822
818
802
832
801
808
834
833

NOTE : Part number and model name of DRUM ASSEMBLY are different depending on the each model.